REFERENCE

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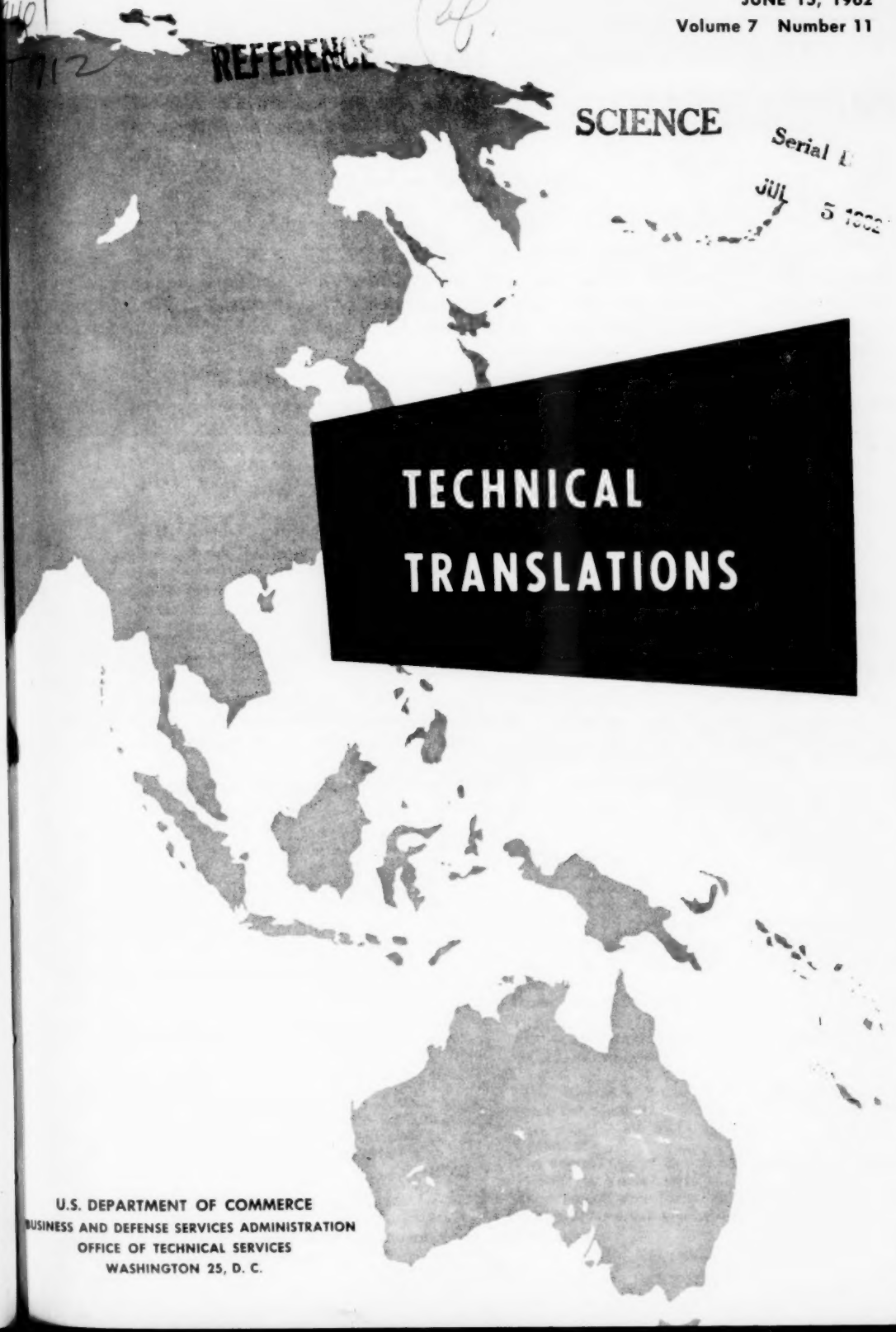

SCIENCE

TECHNICAL TRANSLATIONS

U.S. DEPARTMENT OF COMMERCE
BUSINESS AND DEFENSE SERVICES ADMINISTRATION
OFFICE OF TECHNICAL SERVICES
WASHINGTON 25, D. C.

TECHNICAL TRANSLATIONS

U.S. DEPARTMENT OF COMMERCE
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*Descriptors marked with an asterisk are included in the subject index.

BIBLIOGRAPHY

Science and Technology Div., Library of Congress, Washington, D. C.
CHINESE SCIENTIFIC AND TECHNICAL SERIAL PUBLICATIONS IN THE COLLECTIONS OF THE LIBRARY OF CONGRESS, comp. by Joan Wu. Revised ed. 1961, 107p. 970 refs.
Order from GPO $0.65 GPO LC 33.2: C44/961

DESCRIPTORS: *Scientific reports, Science, Medicine, Agriculture, Engineering, Aeronautics, *China, *Bibliography, Periodicals.

Listed here are only those serials with a significant scientific or technical content. Entries are divided into seven major sections according to broad subject categories and divided into subsections. Within each unit the arrangement is alphabetical. Cross-references are provided when a serial overlaps various categories. In placing a serial in a given category, the actual subject content was followed, not the literal meaning of the title.

AGRICULTURE

Fedorov, V.
LET'S DISCUSS THE PROJECTED PROGRAM OF THE COMMUNIST PARTY OF THE SOVIET UNION. Chemistry: USSR no. 23. 5 Oct 61 [7]p. JPRS: 10417.
Order from OTS or SLA $1.10 61-28598

Trans. from Ekonomicheskaya Gazeta (USSR) 1961, no. 2, p. 3.

DESCRIPTORS: *Agriculture, *Chemical industry.

Torje, D. and Dan, A.
DISTRICTING VARIETIES OF AGRICULTURAL PLANTS IN THE RUMANIAN PEOPLE'S REPUBLIC (Despre Raionarea Soiurilor de Plante Agricole in R. P. Romina). 8 Mar 61 [16]p. JPRS: 7910
Order from OTS or SLA $1.60 62-19328

Trans. of Natura (Rumania) 1960, v. 12, no. 4, p. 100-108.
DESCRIPTORS: *Plants, *Agriculture, Rumania, Ecology, Growth, Climatic factors

Animal Husbandry

ACHIEVEMENTS IN THE BATTLE FOR THE PROTECTION OF THE HEALTH OF ANIMALS. 16 Oct 61 [8]p. JPRS: 10574.
Order from OTS or SLA $1.10 62-19524

Trans. of Probleme Zootehnice si Veterinare (Rumania) 1961, v. 11, no. 5, p. 71-73.

DESCRIPTORS: *Animals, *Cattle, Veterinary medicine.

VETERINARY RESEARCH IN POLAND. 24 July 61 [14]p. JPRS: 8621.
Order from OTS or SLA $1.60 62-19203

Trans. of Medycyna Weterynaryjna (Poland) 1961, v. 17, no. 3, p. 136-142.

DESCRIPTORS: *Veterinary medicine, Poland, *Virus diseases, *Chickens, *Mink, *Virus vaccines, *Anthrax, Anthrax vaccine, Penicillan.

Contents:
Vaccine against ND (Strain F) contaminated with virulent strain, by Kazimierz Marek
A case of anthrax on a mink farm, by Jadwiga Steffen.

VISIT OF CZECHOSLOVAK VETERINARIANS TO THE USSR. 19 June 61 [19]p. (12 photos. omitted). JPRS: 9515.
Order from OTS or SLA $1.60 62-19366

Trans. of Veterinarstvi (Czechoslovakia) 1959, v. 9, no. 11, p. 402-408.

DESCRIPTORS: *Medical personnel, *Veterinary medicine, Animal industry, USSR, Czechoslovakia

Contents:
The second trip of Czechoslovak veterinarians to the USSR, by Vaclav Dyk
Experiences with Soviet veterinary medical centers, by Zdenek Sova and Premysl Krepelka.

Isachenko, V. M.
THE PROTECTION OF AGRICULTURAL ANIMALS FROM AERIAL ATTACK CONDITIONS. 13 Nov 61, 56p. JPRS: 10980.
Order from OTS $1.50 61-31684

Trans. of mono. Zashchita Sel'skohozyaistvennykh Zhivotnykh v Usloviyskh Napadeniya s Vozdukha, Moscow, 1960, 64p.

DESCRIPTORS: Civilian defense systems, *Veterinary medicine, *Radiological warfare, Biological warfare, Chemical warfare, Countermeasures, *Cattle, *Animals

The pamphlet deals with methods of protection of farm animals in areas of compound contamination that may occur as a result of employment by the enemy of atomic, bacteriological, and chemical weapons. In a concise and popular form the author gives specific recommendations the knowledge of which is indispensable to rural inhabitants, workers of stock raising establishments, and personnel of veterinary-aid teams (groups), as well as to citizens who are members of the Antiaircraft Defense study-groups that are being organized in rural areas. (Soviet publisher's note)

Markovic, P., Ciric, L., and Petrovic, M.
SPREADING OF BRUCELLOSIS IN CATTLE ON LARGE FARMS IN VOJVODINA AND PLANNED MEASURES FOR ITS CONTROL (1956-59). 5 June 61 [6]p. JPRS: 8386.
Order from OTS or SLA $1.10 62-19365

Trans. of Veterinarski Glasnik (Yugoslavia) 1960, v. 14, no. 5, p. 323-326

DESCRIPTORS: *Brucellosis, *Cattle, Veterinary medicine, Animal industry.

Zotov, A. P.
INFECTIOUS ENCEPHALOMYELITIS IN HORSES. [1961] 12p. NAMRU Trans. 28(T28).
Order from OTS or SLA $1.60 62-13929

Trans. of Veterinariya (USSR) 1951 [v. 28] no. 6, p. 20-29.

DESCRIPTORS: *Horses, Infections, *Equine encephalomyelitis, Veterinary medicine.

Plant Cultivation

A SUMMARY OF SOIL ENGINEERING TESTS OF NORTHWEST LOESS IN THE PAST FEW YEARS. 24 Oct 61 [23]p. JPRS: 10780.
Order from OTS or SLA $2.60 62-13222

Trans. of Shui Wen Ti Chih Kung Ch'eng Ti Chih (Chinese People's Republic) 1959, no. 10, p. 1-6.

DESCRIPTORS: *Soils, Test methods, Tests, Moisture, Density, Plasticity.

Afonina, A. P. and Verba, M. S.
TMTD USED AGAINST CORN SMUT. 6 Nov 61 [4]p. JPRS: 11010.
Order from OTS or SLA $1.10 62-13439

Trans. of Zaschita Rastenii ot Vreditelei i Boleznei (USSR) 1960 [v. 5] no. 10, p. 33.

DESCRIPTORS: *Corn, *Diseases, *Plants, Sulfur, Exchange reactions, Agriculture.

Balcar, J.
ASSISTANCE GIVEN TO TOBACCO GROWERS IN THE VIETNAMESE DEMOCRATIC REPUBLIC (Pouceni Pestitelu Tabaku ve Vietnamske Demokraticke Republice). [1961] [17]p. (5 figs. 2 tables omitted).
Order from SLA $1.60 62-10743

Trans. of Průmysl Potravin (Czechoslovakia) 1959 [v. 10] no. 5, p. 258-265.

DESCRIPTORS: *Tobacco, Growth, Vietnam, Plants, Agriculture, Smokes.

I discuss in this work the results of an investigation of tobacco growing and tobacco preparation in the Vietnamese Democratic Republic. In 1956 I was sent to Vietnam, together with K. Pavelka, Chief of the Testing Laboratories of the Tobacco Industry in Bratislava, with the task to assist in the introduction of growing and preparation of artificially dried (fluecured) tobacco. Until now, this type of tobacco has been grown in Vietnam only in very few places. The first requirement was thoroughly to study the existing situation, so that the experience gained in Czechoslovakia and in other countries could be successfully applied to it. (Author)

Bocharova, L. P.
KIEV CONFERENCE ON THE CHEMICAL METHOD IN PLANT PEST CONTROL. 24 Jan 62 [5]p. JPRS: 12151
Order from OTS or SLA $1.10 62-15676

Trans. of Zaschita Rastenii ot Vreditelei i Boleznei (USSR) 1961 [v. 6] no. 3, p. 57.

DESCRIPTORS: Conferences, *Plants, *Pest control, Insecticides.

Buslova, E. D.
THE MUTUAL EFFECT OF BORON AND OTHER ELEMENTS OF THE MINERAL ALIMENTATION ON PLANTS AND THE IMPORTANCE OF BORON FOR THE ACCUMULATION OF CHLOROPHYL. [1961] 13p. (15 figs. omitted) 11 refs.
Order from OTS or SLA $1.60 61-20997

Trans. of Russian language article from unidentified source, n.d.

DESCRIPTORS: *Plants, Growth, *Fertilizers, *Boron, Calcium, Phosphorus, *Iron, Nitrogen, Chlorophylls, Physiology.

Boron intensifies the growth of the flax roots independently of the presence of other chemical elements; even on the pure distilled water and when any other component is excluded from the feeding mixture. The condition of the aerial part of the plant, which was to a certain degree harmed by the lack of boron, improves when transported on distilled water. Boron is not important for itself for the aerial part of the plant, but in connection with other mineral components. By excluding any of the components from the mineral fertilizer the signs of the absence of boron are noticed earlier than the signs of the absence of the excluded component; except in the case of calcium. Iron acts mutually with nitrogen; with the intake of nitrogen and with the absence of the iron intake the destruction of the color is localized only to the top leaves. Boron is analgous to iron in this relation; only in the absence of boron the progressive destruction of chlorophyl becomes localized to the under-top zones of the leaves. Both these elements and the nitrogen are indispensable for the accumulation of chlorophyl. (Author)

Dibner, E. E.
KISHINEV CONFERENCE ON THE CREATION OF NEW PEST CONTROL MACHINERY. 24 Jan 62 [3]p. JPRS: 12150.
Order from OTS or SLA $1.10 62-15671

Trans. of Zaschita Rastenii ot Vreditelei i Boleznei (USSR) 1961 [v. 6] no. 3, p. 57-58.

DESCRIPTORS: Conferences, *Pest control, *Agricultural machinery, *Plants.

Gieruszynski, Tadeusz.
ACTIVITIES OF THE FORESTRY RESEARCH INSTITUTE. 12 Jan 62 [8]p. JPRS: 11936.
Order from OTS or SLA $1.10 62-19568

Partial trans. (some parts summarized) of Nauka Polska, 1961 [v. 9] no. 1(33) p. 129-132.

DESCRIPTORS: *Forestry, Trees, Plants.

Korolev, L. I., Voitekhova, V. A., and Stonov, L. D.
NEW CHEMICAL SUBSTANCES FOR PRE-HARVEST ELIMINATION OF THE LEAVES OF THE COTTON PLANT. [1961] 11p. (1 table omitted)
Order from OTS or SLA $1.60 61-20707

Trans. of Vestnik Sel'skokhozyaistvennoi Nauka (USSR) 1958, v. 3, no. 1, p. 82-91.

DESCRIPTORS: *Plants, *Cotton

Musiyko, O. S.
TWO EARS (Dva Kolosy). 31 Aug 61 [8]p. JPRS: 9950.
Order from OTS or SLA $1.10 61-28273

Trans. of Nauka i Zhyttya (USSR) 1961 [v. 11] no. 1, p. 12-13.

DESCRIPTORS: Agriculture, *Corn, Genetics, Mutations, Pollen *Wheat, *Plants.

Radulescu, E., Savescu, A., and Constantinescu, Gh.
PROTECTION OF PLANTS IN THE PEOPLE'S REPUBLIC OF RUMANIA. 22 Nov 61 [13]p. JPRS: 11133.
Order from OTS or SLA $1.60 62-19490

Trans. of Natura (Rumania) 1961, v. 13, no. 2, p. 36-43.

DESCRIPTORS: *Plants, Pathology, Rumania.

Savzdarg, E. E.
THE CURRANT GALL MITE (ERIOPHYES RIBIS NAL) (Smorodinnyi Pochkovyi Kleshch (Eriophyes Ribis Nal)). Jan 62 [12]p. RTS 2017.
Order from OTS or SLA $1.60 62-15390

Trans. of mono. Vrediteli Yagodnykh Kultur, Moscow, 1960, p. 237-252.

DESCRIPTORS: *Mites, *Fruits, *Plants, Agriculture, Pest control.

ASTRONOMY

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: ASTRONOMY AND GEODESY, 1961, NOS. 1 AND 3-9. 26 Feb 62 [29]p. JPRS: 12669.
Order from OTS or SLA $2.60 62-19767

Trans. of selected abstracts from Referativnyi Zhurnal. Astronomiya i Geodeziya (USSR) 1961, nos. 1 and 3-9.

DESCRIPTORS: *Astronomy, *Geodesics, Literature, Abstracting, *China, Maps, Radio astronomy, Sun, Stars, Astrophysics, Optics, Optical equipment, Instrumentation, Geodetic astronomy.

BULLETIN OF THE KAZAN UNIVERSITY ASTRONOMICAL OBSERVATORY, 1960, NO. 35: [SELECTED ARTICLES]. 23 Oct 61 [34]p. 12 refs. MCL-1338; AD-265 729.
Order from OTS or SLA $3.60 62-13056

Unedited rough draft trans. of Kazan U. Astronomicheskaya Observatoriya. Byulleten'(USSR) 1960, no. 35, p. 1-23.

DESCRIPTORS: *Astronomical observatories, Radio astronomy, Radar, Radar echo areas, *Radar tracking, *Meteors, Azimuth, *Ionosphere, Antennas, Radar antennas, *Antenna radiation patterns, Radar reflections, *Recording devices, Instrumentation, Photography, Motion picture film.

Contents:
The apparatus of the Engel'gardt Astronomical Observatory for radar observations of meteors, by K. V.

Kostylev and others. A survey of radar observations of meteor activity, conducted at the Engel'gardt Astronomical Observatory from May 56 through Aug 58, by Yu. A. Pupyshev.

Alekseev, V. M.
ON A THEOREM IN THE THEORY OF PERTURBED MOTION. [1961] [26]p. 1 ref.
Order from OTS or SLA $2.60 62-10452

Trans. of Astronomicheskii Zhurnal (USSR) 1961, v. 38, no. 2, p. 325-335.

DESCRIPTORS: *Celestial mechanics, Mechanics, *Perturbation theory, Motion, Differential equations, Gravity, Integral equations, Theory

The system of differential equations, $d\bar{r}/dt = \bar{\mu}$ and $d\bar{\mu}/dt = -\mu\bar{r}/r^3 + \bar{\Phi}(\bar{r}, \bar{\mu}, t)$, which describes the relative motion of 2 bodies under Newtonian gravitational attractions and as force perturbations from a wide latitude of possible sources, is shown to be equivalent to the system of integral equations $\bar{r}(t) = \bar{r}_o + \int_{t_o}^{t} \bar{\mu}(s)ds$, and

$$\bar{\mu}(t) = \bar{U}(\bar{r}, \bar{\mu}_o, t - t_o) + \int_{t_o}^{t} A(\bar{r}(s), \bar{\mu}(s), t-s)\bar{\Phi}(\bar{r}(s), \bar{\mu}(s), s)ds.$$

Here $\bar{r}$ is the vector from the Newtonian point gravitational source to the mass particle, $\bar{\mu}$ is the vector velocity of the mass particle, $-\mu\bar{r}/r^3$ is the intensity of Newtonian gravitational attraction (due to the point source) at the position occupied by the mass particle, $\bar{\Phi}(\bar{r}, \mu, t)$ is the vector resultant of all perturbative accelerations of the mass particle due to all perturbing forces acting on the mass particle, $\bar{U}$ is the velocity vector of the undistrubed Keplerian motion, and A is a matrix associated with the original system of ordinary differential equations. The development of the proof yields considerable information on celestial dynamical concepts beyond the essential content of the theorem.

Kuz'min, A. D. and Salomonovich, A. E.
RADIO EMISSION IN THE REGION OF TAURUS-A AT 8 MM WAVELENGTH (Radioizluchenie Oblasti Telets-A na Volne 8 mm) tr. by A. Pingell. 1961, 4p. 5 refs. N R L Trans. no. 875.
Order from OTS $0.50 62-11084

Trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 140, no. 1, p. 81-83.

DESCRIPTORS: Stars, Radio signals, *Radio astronomy.

The first recording of radio emission from this source was obtained on 21 August 1959. Systematic observations were carried out in March-April 1961. A modulation radiometer of a conventional type was used as the receiving device, whose high-frequency component was located near the focus of the parabolic reflector. Observations were conducted by using the method of successive passages of the source past the diagram of directivity of the stationary antenna. Two maxima in a single recording are systematically recorded in each averaged curve and correspond, it appears, to two sources of radio emission. The first source can be identified with the well-known Taurus-A source. The second is a new source different from Taurus-A. Apparently, this source is similar to the well-known nebulae NGC 1976 and NGC 6618.

Tindo, I. P.
FAR-ULTRAVIOLET ASTRONOMY. 21 Nov 61 [14]p. FTD-TT-61-116. AD-267 731.
Order from OTS or SLA $1.60 62-15172

Unedited rough draft trans. of Nauka i Zhizn' (USSR) 1960 [v. 27] no. 11, p. 41-45.

DESCRIPTORS: *Astronomy, Ultraviolet research, *Ultraviolet radiation, X rays, Solar energy, Galaxies, Sky.

The state of the art is discussed in nontechnical language.

Astrophysics

CELESTIAL MECHANICS AND OPTIMUM METHODS. PART III. DIFFERENTIAL EQUATIONS WITH DELAYED ARGUMENT. Background rept. on AID Work Assignment no. 8. 20 Dec 61 [67]p. 59 refs. AID rept. 61-167; AD-271 524.
Order from OTS or SLA $6.60 62-19111

Consists of an introduction, 35 reviews arranged under six headings, and a bibliography covering the period 1957-1960.

Contents:
Solution of various types of differential equations with delayed argument and properties of these solutions
Stability theory of solutions of differential equations with delayed argument according to Lyapunov
Operational methods of solution of differential equations with delayed argument
Boundary value problems for differential equations with delayed argument
Boundaries criteria for solutions of differential equations with delayed argument
On the theory of oscillating solutions.

GEOMAGNETISM AND AERONOMY, 1961, VOL. 1, NO. 4: SELECTED ARTICLES. 30 Jan 62 [75]p. 62 refs. JPRS: 12205.
Order from OTS or SLA $7.60 62-15648

Trans. of Geomagnetizm i Aeronomiya (USSR) 1961, v. 1, no. 4, p. 500-506, 531-547, 552-556, 561-571, 620-622.

DESCRIPTORS: *Terrestrial magnetism, Magnetism, *Aurorae, Southern hemisphere, Magnetic fields, Diurnal variations, Solar flares, Magnetic effects, *Atmosphere, Ionosphere, Night sky, Recombination reactions, Cosmic rays, Neutrons, Flares, Intensity, Electromagnetic wave reflections, Reflection, Radar analysis, Photographic analysis, Motion picture photography, Photometers.

Contents:
Type A red auroras in the high latitudes, by L. S. Evlashin
Auroras in the southern hemisphere, by Ya. I. Fel'dshtein and E. K. Solomatina
Recombination in the Es layer at night, by M. I. Pudovkin
Results of simultaneous radar, photographic, and photoelectric observations of auroras, by V. I. Dzyubenko and Yu. A. Nadubovich
Individual small flares of cosmic ray neutron intensity by data from world network of stations, by L. I. Dorman and E. V. Kolomeets
Structure of the atmosphere in the lower part of the F region and peculiarities of the complex F layer, by L. A. Shchepkin
Corpuscular nature of the day-to-day changes of quiet solar diurnal geomagnetic variation, by V. I. Afanas'eva.

HERALD OF THE ACADEMY OF SCIENCES OF THE USSR, 1960, NO. 10: SELECTED ARTICLES. 11 Dec 61 [19]p. MCL-1188; AD-268 871.
Order from OTS or SLA $1.60 62-15402

Unedited rough draft trans. of Akademiya Nauk SSSR. Vestnik, 1960 [v. 30] no. 10, p. 32-36 and 99-102.

DESCRIPTORS: Moon, Exploration, *Lunar probes, *Space flight, Spaceships, Satellite vehicle research.

Contents:
A new stage of lunar study, by N. P. Barabashov
Flight of the second cosmic ship.

SOVIET-BLOC RESEARCH IN GEOPHYSICS, ASTRONOMY, AND SPACE, NO. 25. 15 Dec 61, 27p. JPRS: 11513.
Order from OTS $16.00/year 61-11147-25
foreign $20.00/year

DESCRIPTORS: *Geophysics, *Astronomy, *Astronautics, *Upper atmosphere, *Space probes, *Astrophysics, Meteorology

Consists of news items and abstracts of scientific articles on astronomy, meteorology, oceanography, terrestrial geophysics, upper atmosphere and space research, and other miscellaneous subjects.

SOVIET-BLOC RESEARCH IN GEOPHYSICS, ASTRONOMY, AND SPACE, NO. 26. 2 Jan 62, 34p. JPRS: 11705.
Order from OTS $16.00/year 61-11147-26
foreign $20.00/year

DESCRIPTORS: *Geophysics, *Astronomy, *Astronautics, *Upper atmosphere, *Space probes, *Astrophysics, Meteorology.

Consists of news items and abstracts of scientific articles on astronomy, meteorology, oceanography, terrestrial geophysics, upper atmosphere and space research, and other miscellaneous subjects.

Demin, V.
ON THE WAY TO THE VENUS; FOR WHAT PURPOSE AND HOW DOES THE SOVIET INTERPLANETARY STATION MEASURE THE SOLAR SYSTEM (Na Puti k Venere; dlya Chego i kak Sovetskaya Mezhplanetarnaya Stantsiya Izmeraet Solnechnuyu Sistem). 22 Sep 61 [8]p. MCL-1261.
Order from OTS or SLA $1.10 62-13571

Unedited rough draft trans. from Krasnaya Zvezda (USSR) 1961, no. 56(11356) p. 4.

DESCRIPTORS: *Venus, *Solar systems, *Space flight, Satellite vehicles, Astronautics, Planets, Rotation, Celestial mechanics, Astronomical data.

To gain an accurate knowledge of distances between bodies of the solar system it is necessary to determine with high accuracy the mean distance from the Earth to the Sun, i.e., an astronomical unit. Through this unit are expressed all other distances. (Extract)

Severnyi, A. B.
NON-STEADY CONTINUOUS EMISSION OF BURSTS (O Nestatsionarnoi Nepreryvnoi Emissii Vspyshek) tr. by M. Slade. [1961] [16]p. (foreign text included) 7 refs. [CSIRO] Trans. 5156.
Order from OTS or SLA $1.60 61-23979

Trans. of [Akademiya Nauk SSSR]. Krymskaya Astrofizicheskaya Observatoriya. Izvestiya, 1960, v. 22, p. 67-74.

DESCRIPTORS: *Solar flares, Flares, Solar atmosphere, *Bremsstrahlung, *Electrons, Density, Electron beams, Synchrotrons, X-rays, Plasma physics, Magnetic pinch, Magnetic fields, Spectrographic analysis.

It is shown that nonstationary continuous emission of flares and grains in active faculae regions can be considered as a long wavelength tail of Bremmstrahlung of electrons, accelerated in the vicinity of the neutral point (H = 0) during the pinch-effect in flares. The extrapolation of the energy distribution observed in the visual spectral region to the X-ray region leads to values which agree with data of rocket measurements. The number of rapid electrons necessary for producing the observed emission ($\sim 0.1\%$ of the total electron density) was estimated and it is shown that if these electrons can penetrate through the solar atmosphere, then their density at the earth's surface will be within the limits $\sim 0,1 - 10^2 cm^{-3}$. (Author)

Zigel', F. Yu.
NUCLEAR EXPLOSION OVER THE TAIGA (STUDY OF THE TUNGUSKA METEORITE). 17 Apr 62, 11p. (3 figs. omitted). JPRS: 13480.
Order from OTS $0.50 62-11648

Trans. of Znanie-Sila (USSR) 1961 [v. 36] no. 12, p. 24-27.

DESCRIPTORS: *Nuclear explosions, Explosions, Siberia, *Meteorites, Comets, Explosion damage, Nuclear energy.

Data are reviewed suggesting that the mysterious body which exploded on 30 June 1908 in the Siberian taiga near the Tunguska River released nuclear energy and that the explosion was actually some sort of nuclear blast. An examination of previously established information shows that the body could not have been a meteorite nor a comet. Data obtained by a 1958-1961 expedition led by the Ural geophysicist A. V. Zolotov and sponsored by the USSR Academy of Sciences indicates that the body was travelling at a velocity of about 3 kilometers a second and that the source of the explosion could not have been the kinetic energy of the body, but was its internal energy. Other evidence obtained by the Zolotov expedition shows that the radiant energy of the explosion was about 10^{23} ergs. The body was apparently flying from the SW towards the NE. Furthermore, the explosion was directive. The directivity of the explosion leads Zolotov to conclude that the explosive nuclear substance was contained in a non-explosive shell. (See also 59-16965, 62-13852)

BEHAVIORAL SCIENCES

Koptev, V. S.
DRONE-BEARING BEES AND SWARMING OF BEE COLONIES. [1961] [4]p. 2 refs.
Order from OTS or SLA $1.10 62-15687

Trans. of Pchelovodstvo (USSR) 1957, v. 34, p. 31-32.

DESCRIPTORS: *Insects, Reproductive system, Anatomy, Physiology, Agriculture.

Worker bees with developed ovaries, but not yet laying eggs, are called anatomical drone-bearers, and egg-laying workers are called physiological drone-bearers. Anatomical drone-bearers appear in all colonies that are swarming or preparing to swarm. Experiments showed that there are a large number of drone-bearers in some swarms, but that the presence of anatomical drone-bearers in colonies of bees is not a necessary condition for their swarming. The highest percentage of drone-bearers is found in colonies with queens that are sterile or lay few eggs; but drone-bearers may occur under certain conditions in colonies in various states, and even in normal heavy colonies throughout the summer, down to the end of the main honey-gathering period, independently of the preparedness of the colony for swarming.

Krasuskii, V. K.
INSTANCES OF INCORRECT APPROACH TO THE STUDY OF HIGHER NERVOUS ACTIVITY TYPES, tr. R. Crawford. [1961] [27]p. 58 refs.
Order from OTS or SLA $2.60 62-13898

Trans. of #Zh[urnal] Vyssh[ei] Nervn[oi] Deyatel ['nosti] (USSR) 1960, v. 10, no. 6, p. 922-932.

DESCRIPTORS: *Autonomic nervous system, Excitation, Inhibition, *Animals, *Behavior.

Lopatina, N. G.
THE DANCE OF BEES. [1961] [8]p.
Order from OTS or SLA $1.10 62-15688

Trans. of Pchelovodstvo (USSR) 1956, v. 33, p. 19-24.

DESCRIPTORS: *Insects, Conditioned reflexes, *Behavior.

Experiments have shown that the dance of bees, like any other unconditioned reflex (instinct) of an animal, can be controlled by conditioned reflexes, if the physiological mechanisms by which they proceed are known. By experimentally changing the behavior of individual worker bees, the flight activity of the entire colony can be changed, since it is known that a dancing bee mobilizes 8 to 10 times as many bees from the hive to go out to the plants as does a non-dancing bee. The level of excitation of the bee's nervous system is determined by the amount and quality of nectar or pollen, the difficulty of obtaining it, the flying distance to it. Decreasing the sugar content or the amount of the nectar, and difficulty in obtaining it, act as stimuli producing predominance of the inhibitory process in the nervous system, which leads to cessation of the dance and hence to a decrease in the number of bees mobilized for gathering. Contrariwise, increasing the sugar content of the nectar, or its amount, or making it easier to obtain, leads to a heightening of the level of excitation and the appearance of the dance, to an increase in the number of bees mobilized. The farther the source of the food is from the hive, the more muscular effort is required to overcome the distance. This leads to intensified metabolism, which in turn leads to a great rise in the level of excitation of the nervous system and to the appearance of the figure-eight dance in the bees returning from distant sources of food. (Extracted)

Personnel and Training

BIOGRAPHIES OF SOVIET SCIENTISTS. 29 Dec 61 [30]p. JPRS: 11858.
Order from OTS or SLA $2.60 62-15360

Trans. of 12 selected biographical articles from various Soviet sources.

DESCRIPTORS: Insects, Pest control, Parasitology, *Biology, Heart, *Surgery, Silicates, Pathology, *Medicine, Tuberculosis, *Scientific personnel.

Contents:
Vladimir Nikolaevich Beklemishev, Sergei Nikolaevich Bogolubskii, Nikolai Aleksandrovich Kurshakov, Ivan Ivanovich Puzanov, Ivan Yakovlevich Sendul'skii, Sergei Sergeivich Bryukhonenko, Nikolai Nikolaevich Kachalov,
Basya Isakovna Kagan, Efim L'vovich Marshak, Pavel Mironovich Obukhovskii,
Vasilii Kuz'mich Trutnev, Semen Mikhailovich Zamoochovskii.

BIOGRAPHIES OF SOVIET SCIENTISTS. 25 Jan 62 [39]p. JPRS: 12281.
Order from OTS or SLA $3.60 62-15658

Trans. of 16 selected biographical articles from various Soviet sources.

DESCRIPTORS: *Scientific personnel, Scientific organizations.

Contents:
Vladimir Nikolaevich Belov, Semen Savel'ich Il'in, Leonid Aleksandrovich Ivanov, Nikolai Dmitrievich Ierusalimskii, Sergei Ivanovich Kuznetsov, Evgenii Nikolaevich Mishustin, Pavlo Mikolaiovich Pershin, Aleksandr Georgievich Samartsev, Aleksandr Alekseevich Surin, Anatolii Andreevich Zinov'ev, Ivan Nikolaevich Bulankin, Vasilii Nikolaevich Deshkin, Abram Fedrovich Ioffe, Boris Dmitrievich Kruzhalov, Sergei Nikolaevich Muromtsev, Samuil L'vovich Sobol', Edgar Lazarevich Ter-Gazaryan.

BIOGRAPHIES OF SOVIET SCIENTISTS. 2 Feb 62 [28]p. JPRS: 12339.
Order from OTS or SLA $2.60 62-15777

Trans. of 11 selected biographical articles from various Soviet sources.

DESCRIPTORS: *Scientific personnel, Scientific organizations.

Contents:
Vladimir Aleksandrovich Aronson, Sergei Nikolaevich Bogolyubskii, Ivan Nikolaevich Filimonov, Stepan Ivanovich Karchikyan, Khachatur Sergeevich Koshtoyants, Naum Il'ich Medvedev, Konstantin Ignat'evich Meer, Nikolai Aleksandrovich Mirzoyan, Vasilii Semenovich Shardakov, Kabul Nazarovich Takhirov, Vladimir Konstantinovich Vasil'ev.

ELECTIONS OF ACADEMICIANS AND CORRESPONDING MEMBERS OF THE ACADEMY OF SCIENCES OF THE UKRAINIAN SSR. 11 Jan 62 [14]p. JPRS: 11960.
Order from OTS or SLA $1.60 62-15493

Trans. of Akademiya Nauk URSR, Kiev. Dopovidi, 1961, no. 5, p. 582-589.
Another trans. is available from OTS or SLA $1.60 as 62-15235, JPRS-11749, 20 Dec 61 [14]p.

DESCRIPTORS: Scientific organizations, *Scientific personnel.

NEW DOCTORS AND CANDIDATES (Ujdoktorok es Kandidatusok). 12 Dec 60 [6]p. JPRS: 4260.
Order from OTS or SLA $1.10 62-19189

Trans. of Magyar Tudomany (Hungary) 1960, v. 5[67] no. 9, p. 562-563.

DESCRIPTORS: *Scientific research, *Scientific personnel.

NEW HUNGARIAN DOCTORS AND CANDIDATES. 10 May 61 [6]p. JPRS: 4583.
Order from OTS or SLA $1.10 62-19190

Trans. of Magyar Tudomany (Hungary) 1960, v. 5[67] no. 11, p. 701-703.

DESCRIPTORS: *Scientific personnel, *Scientific reports, Scientific research.

PRESENTATION OF HONORARY TITLES AND AWARDS BY THE PRESIDIUM OF THE SUPREME SOVIET KAZAKH SSR. 19 Jan 62 [16]p. JPRS: 12119.
Order from OTS or SLA $1.60 62-15473

Trans. of Akademiya Nauk Kazakhskoi SSR, Alma-Ata. Vestnik, 1961 [v. 17] no. 7[196] p. 2-9.

DESCRIPTORS: *Scientific research, Scientific personnel.

Heberger, Karoly.
REGULATION OF POSTGRADUATE TRAINING FOR ENGINEERS. 2 Mar 61 [7]p. JPRS: 6824.
Order from OTS or SLA $1.10 62-19417

Trans. of Felsooktatasi Szemle (Hungary) 1960, v. 9, no. 9, p. 554-555.

DESCRIPTORS: *Engineering personnel, *Training, Engineering, Industrial research.

Stoebel, W.
TRAINING OF TECHNOLOGICAL ENGINEERS FOR THE FIELD OF PRECISION-MECHANICS OPTICS AND FOR THE ELECTRICAL INDUSTRY. 1 Mar 61 [8]p. JPRS: 6827.
Order from OTS or SLA $1.10 62-19415

Trans. of Felsooktatasi Szemle (Hungary) 1960, v. 9, no. 10, p. 646-649.

DESCRIPTORS: *Engineering personnel, *Training, Precision finishing, Optics, Electrical industry.

BIOLOGICAL SCIENCES

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: BIOLOGY, 1961, NOS. 6-7. 15 Feb 62 [56]p. JPRS: 12536.
Order from OTS or SLA $5.60 62-19991

Trans. of selected abstracts from Referativnyi Zhurnal. Biologiya (USSR) 1961, nos. 6-7.

DESCRIPTORS: *Biology, China, Virus diseases, Spermatogenesis, Plants, Soils, Forestry, Growth, Diseases, Insects, Mammals, Parasitology, Animals, Agriculture, Embryology, Physiology, Body temperature, Neurology, Tumors, Pathology, Pharmacology, Toxicity, Histology, Mollusca, Metabolism, Blood circulation, Endocrine glands, Secretion, Nerves, Muscles.

DESCRIPTION OF MEDICAL INSTITUTIONS IN CAMBODIA. 15 Mar 61 [7]p. JPRS: 6921.
Order from OTS or SLA $1.10 62-19337

Trans. from Realités Cambodgiennes, 1960, 3 June, p. 1 and 6, and 24 June p. 1 and 6.

DESCRIPTORS: *Medicine, Combodia, Microbiology, Rabies.

Contents:
Description of the Royal School of Medicine in Phnom-Penh, by Ke Chhay Von
Description and activities of the Microbiological and Antirabie Institut.

MEDICINE AND SPACE FLIGHTS. 14 Aug 61, 29p. JPRS: 9939.
Order from OTS $1.00 61-31585

Trans. of [Vsesoyuznoe Obshchestvo po Rasprostraneniyu Politicheskikh i Nauchnykh Znanii. Seriya 8: Biologiya i Meditsina (USSR) 1961, no. 9, p. 3-32.

DESCRIPTORS: *Space medicine, *Space flight, Cosmic rays, *Biology, *Space environmental conditions, Weightlessness, Spaceships.

Contents:
In place of a foreword, by N. N. Blokhin
The role of space medicine in providing for the flight of the first cosmonaut, by V. V. Parin
Fundamental medical-biological problems of space flights, by O. G. Gazenko
Radiation in cosmic space, by S. N. Vernov.

Evlakhova, A. A.
FORMULATION OF A MICROBIOLOGICAL METHOD FOR COMBATTING EURYGASTER IN THEIR HIBERNATION SITES. [1961] 14p. 20 refs.
Order from OTS or SLA $1.60 61-16153

Trans. of V[sesoyuznyi] I[nstitut] Z[ashchity] R[astenii. Trudy] (USSR) 1958, no. 9, p. 323-340.

DESCRIPTORS: *Triatoma, *Insect control, *Hibernation, *Fungus infections, Microorganisms, Insects, Rusts.

Consideration is given to the conditions for the activity of pathogenic microorganisms in the places where the bugs hibernate, the species composition of the causal organisms, the importance of the physiological state of the insect, which determines its susceptibility to infection, and some methods of employing pathogenic microorganisms to set up artificial foci of infection in the places where the pentatomids hibernate. The material reported on was the result of work conducted in 1951 in the fundamental regions of mass propagation of Eurygaster in the Krasnodar Territory, Kamensk and Saratov Regions. A study of dead Eurygaster from their hibernation sites in various districts in 1951-1956 showed that their death was basically due to the fungus Beauveria Bassiana, which under certain conditions causes a serious decrease in the numbers of the pest at the end of the hibernation period. When this material was cultured, there were isolated the pathogenic asporogenous bacteria Chromobacterium prodigiosium and Pseudomonas pyocyanea, which cause red and black bacteriosis in Eurygaster. The bugs which have passed the winter in hibernation sites and in the fields are most susceptible; the bugs of the new generation, after flying away from the hibernation site, are least susceptible.

Latzko, E.
THE FUNCTION OF POTASSIUM IN METABOLISM OF ENERGY RICH PHOSPHATE IN THE PLANT AND ANIMAL ORGANISMS (Die Funktion des Kaliums im Stoffwechsel der Energiereichen Phosphate Pflanzlicher und Tierischer Organismen). [1961] [19]p. 39 refs.
Order from SLA $1.60 61-20432

Trans. of Agrochimica (Italy) 1959, v. 3, no. 2, p. 148-164.

DESCRIPTORS: *Phosphorylation, *Metabolism *Plants, Cells, Photosynthesis, Magnesium, Energy, Aerobiology, *Potassium, *Phosphates.

K^+ appreciably and specifically increases phosphorus utilization in the course of the aerobic phosphorylation activated by animal and plant cells. In the course of phosphorylation by photosynthesis, potassium is shown to exert an influence similar to that shown by a group of researchers at Berkeley to exist for magnesium. (Author)

Lebedeva, G. D.
INFLUENCE OF BERYLLIUM CHLORIDE ON AQUATIC ORGANISMS. 20 Dec 61 [10]p. 4 refs. JPRS: 11587.
Order from OTS or SLA $1.10 62-13709

Trans. of Zoologicheskii Zhurnal (USSR) 1960, v. 39, no. 12, p. 1779-1782.

DESCRIPTORS: *Beryllium compounds, *Chlorides, *Marine biology, Physiology, Respiration, Growth.

Leucaspius delineatus Heckel, chironomid larva bloodworm (Chironomus f. 1. plumosus), daphnia (Daphnia magna), and duckweed (Lemna minor) were studied in dechlorinated water with Be Cl_2 in concentrations of 0.025 to 8.0 mg/liter of water.

Puscaru-Soroceanu, Evdochia.
THE ACHIEVEMENTS OF SOVIET SCIENCE IN THE MAPPING OF VEGETATION AND THEIR SIGNIFICANCE FOR RUMANIA. 11 Dec 61 [7]p. JPRS: 11421.
Order from OTS or SLA $1.10 62-19539

Partial trans. (some parts summarized) of Natura (Rumania) 1961, v. 13, no. 1, p. 12-19.

DESCRIPTORS: *Mapping, *Plants, Botanists, Maps, *Rumania, Preparation.

Zaitsev, V. P. and Radakov, D. V.
THE UTILIZATION OF A SUBMARINE FOR SCIENTIFIC FISHERIES RESEARCH: EXPEDITIONS OF THE SUBMARINE SEVERYANKA [Ispolzovanie Podvodnoi Lodki dlya Nauchnykh Rybokhozyaistvennykh Issledovanii; Ekspeditsii Podvodnoi Lodki "Severyanka"] tr. by Wilvan G. Van Campen. [Feb 61] [4]p. 4 refs.
Order from OTS or SLA $1.10 61-28764

Trans. of mono. [Sovetskie Rybokhozyaistvennye Issledovaniya v Moryakh Evropeiskogo Severa (Soviet Fisheries Investigations in North European Seas) Moscow, 1960, p. 463-465.

DESCRIPTORS: *Submarines, *Fisheries, Scientific research, *Marine biology, Plants, Ocean bottom, Visual perception.

Anatomy and Physiology

CONFERENCE ON GERONTOLOGY AND GERIATRICS (NO. 2) MOSCOW, 1960: ABSTRACTS OF PAPERS. [1962] 81p. Public Health Service pub. no. 884.
Order from GPO $0.35 GPO FS2.22:G31/2

DESCRIPTORS: *Conferences, *Age, Abstracting, Physiology, Diseases.

DEVELOPMENTS IN EMBRYOLOGY AND CYTOLOGY. 17 Oct 61 [28]p. JPRS: 10552.
Order from OTS or SLA $2.60 62-13033

Trans. of Nauka i Zhizn' (USSR) 1961 [v. 28] no. 6, p. 65-73.

DESCRIPTORS: *Electron microscopes, *Embryos, Growth, *Histology, Cells (Biology), Tissues (Biology)

Contents:
The electron microscope and the cell, by V. F. Mashanskii
An experiment by Italian scientists
Nothing fantastic about it
Can the development of the embryo be guided, by O. E. Vyazov and I. I. Titova
A live embryo under a microscope, by V. I. Sorokin.

DU BOIS-REYMOND, EMIL (1818-96) GERMAN PHYSIOLOGIST. [1961] 2p. 1 ref.
Order from OTS or SLA $1.10 62-10714

Trans. of Bol'shaya Sovetskaya Entsiklopedia (USSR) 2d ed, 1952, v. 15, p. 350.

DESCRIPTORS: *Physiology, *Medical research, Scientific personnel.

FORTY YEARS OF SOVIET MEDICINE. 11 Sep 61 [10]p. JPRS: 4960.
Order from OTS or SLA $1.10 62-13387

Trans. of Concours Médical (France) 1960 [v. 82] Jan, p. 189-196.

DESCRIPTORS: *Medicine, *Public health, Hospitals, History, Statistical data.

JOURNAL OF HIGHER NERVOUS ACTIVITY, 1961, VOL. 9, NO. 3: SELECTED ARTICLES. 11 Dec 61 [22]p. JPRS: 11392.
Order from OTS or SLA $2.60 62-13681

Trans. of #Zhurnal Vysshei Nervnoi Deyatel'nosti (USSR) 1961, v. 11, no. 3, p. 566-575.

DESCRIPTORS: *Conferences, *Psychology, *Psychiatry, *Physiology, *Nervous system, Cerebral cortex, Brain, Vision, Pathology.

Contents:
Conference on Higher Nervous Activity in Man, by L. B. Gakkel'
Problems of Cortico-Visceral Physiology and Pathology, by N. A. Nikolov
Problems of Physiology and Pathology of Higher Nervous Activity, by V. D. Bykov and G. M. Nikitina.

Balakhovskii, I. S.
POSSIBILITY OF SIMULATION OF THE SIMPLEST ACTS OF BEHAVIOR BY MEANS OF DISCRETE HOMOGENEOUS MEDIA. 22 Nov 61 [12]p. 1 ref. JPRS: 11177.
Order from OTS or SLA $1.60 62-13534

Trans. of #Problemy Kibernetiki (USSR) 1961, no. 5, p. 271-277.

DESCRIPTORS: *Conditioned reflex, Cybernetics, *Stimulation, *Neuromuscular transmission.

Bychkov, V. P. and Ramzaev, P. V.
SKIN TEMPERATURE AND CORRELATION OF METHODS OF HEAT LOSS: OBJECTIVE CRITERIA OF THE BOUNDARY BETWEEN COMFORT AND OVERHEATING. 29 Jan 62 [9]p. 23 refs. JPRS: 12298.
Order from OTS or SLA $1.10 62-15790

Trans. of Gigiena Truda i Professional'nye Zabolevaniya (USSR) 1961, v. 5, no. 12, p. 3-7.

Portions of this report will not reproduce well.

DESCRIPTORS: *Skin, *Body temperature, *Perspiration, Heat production (Biology), Heat tolerance, Stress (Physiology), Climatic factors.

Experiments and numerous data from the literature made it possible to arrive at the following conclusions: (1) Data on average skin temperature and correlation between thermal current and transpiration heat loss can be used as objective physiological indices of the upper comfort limit (boundary between comfort and overheating) in a human; (2) the average skin temperature of a person in a state of rest under comfortable meteorological conditions should not exceed 34°, and the percentage of heat loss by transpiration -- no higher than 27%.

Dresse, A.
ON THE REFLEX CONTROL OF CATECHOLAMINE LEVELS IN THE ADRENAL GLAND (Sur le Contrôle Réflexe de la Teneur des Surrénales en Catécholamines). July 61 [5]p. 7 refs.
Order from SLA $1.10 61-20464

Trans. of Soc[iété de] Biol[ogie et de ses Filiales]. C[omptes] R[endus des Sciences] (France) 1961, v. 154, 31 Mar, p. 1878-1880.

DESCRIPTORS: Carotid sinus, Chemoreceptors, Stimulation, Secretion, *Epinephrine, Hypertensin, Pharmacology, Blood pressure, *Pyrocatechol, *Amines, *Adrenal glands, Conditioned reflex.

The physiological rest of epinephrine-secretion achieved by stimulation of the sino-carotid baroreceptors produces an increase in the epinephrine content in the adrenals. (Author)

Fitzpatrick, William H. and DeLong, Chester W., Compilers.
SOVIET MEDICAL RESEARCH RELATED TO HUMAN STRESS: A REVIEW OF THE LITERATURE 1950-Dec 58. [1962] 121p. Public Health Service pub. no. 853.
Order from GPO $0.40 GPO FS 2.214:St8

DESCRIPTORS: *Stress (Physiology), *Bibliography.

Fridenshtein, A. Ya.
ARTIFICIAL EXSKELETAL OSTEOGENESIS (Iskusstvennoe Vneskeletnoe Kosteobrazovanie). [1961] [22]p. 41 refs. [NIH]-13.
Order from OTS or SLA $2.60 62-15152

Trans. of Uspekhi Sovremennoi Biologii (USSR) 1955, v. 39, no. 3, p. 299-307.

DESCRIPTORS: *Tissue (Biology), *Bone, *Skeleton.

Analysis of the research indicates that osteogenesis can be induced in connective, skeletal, and epithelial tissues. The agents and factors which were found in previous research to be favorable to ectopic osteogenesis in each tissue group are discussed and evaluated.

Furduev, V. V. and Krechmer, S. I.
RUNNING AUTOCORRELATION OF SPEECH SIGNALS. [1961] 12p. 2 refs.
Order from OTS or SLA $1.60 61-20828

Trans. of mono. 100th. Birthday of A. S. Popov, Collection, pub. by Akad[emiya] Nauk SSSR, 1960, p. 228-233.

DESCRIPTORS: *Speech, *Signals, Speech transmission, *Correlation techniques.

The running (short-time) autocorrelation function of speech signals is investigated for the purpose of determining the statistical characteristics of speech which determine inferference effects. Analysis of the mean square values of the running autocorrelation function determines the coherence factor of speech signals. (Author)

Mashcherskii, R. M.
AN IMPROVED STEREOTAXIC APPARATUS FOR SMALL ANIMALS (STM-1A) tr. by R. Crawford. [1961] [11]p. (2 figs. omitted) 6 refs.
Order from OTS or SLA $1.60 62-13896

Trans. of #Zh[urnal] Vyssh[ei] Nervn[oi] Deyatel-['nosti] (USSR) 1960, v. 10, no. 6, p. 913-917.

DESCRIPTORS: *Brain, Animals, Conditioned reflex, Electrodes.

The suggested model of a stereotaxic apparatus (STM-1A) for work with small animals (frogs, mice, rats, guinea pigs, rabbits, cats, etc.) was designed in the Institute of Higher Nervous Activity, U.S.S.R. Academy of Sciences, as a result of experience with a stereotaxic apparatus of earlier type. The STM-1A apparatus differs from the preceding model in the freer mobility of the bridge in the guiding slots of the base plate, provision for turning of the vertical rack to an angle of $\pm 45^{\circ}$ and the presence of vertebra holders which facilitate work on the spinal cord. Standard micrometer screws are used for the more accurate vertical delivery of the electrode holder. (Extracted)

Pyshina, S. P.
MECHANISM OF THE SHORT-ACTING CONDITIONED STIMULUS, tr. by R. Crawford. [1961] [10]p. (3 figs. omitted) 6 refs.
Order from OTS or SLA $1.10 62-13899

Trans. of #Zh[urnal] Vyssh[ei] Nervn[oi] Deyatel['nosti] (USSR) 1960, v. 10, no. 6, p. 860-863.

DESCRIPTORS: *Conditioned reflex, Excitation, Secretion, Inhibition.

In experiments on 6 dogs the sudden shortening of the 30-sec conditioning stimulus to 1 sec led to the intervention of an orienting reflex and the development of inhibition. Repeated application of the 1-sec stimulus over a number of days led to complete reproduction of the previously elaborated structure of the cortical process of excitation. Prolonged use of the 1-sec stimulus caused some readjustment of the elaborated process of excitation. The excitation process acquired a different structure, whereby the secretion occurred as in a delayed reflex (third phase in the action of the 1-sec conditioned stimulus). The development of inhibition was associated with prolongation of the latent periods for reactions to the continuous stimuli also. With the formation of a new functional structure for the cortical nervous process the old structure was not destroyed but merely inhibited and could be reproduced when the cortical excitability was enhanced.

Sheivekhman, B. E.
USE OF ACOUSTICAL CONTROL FOR THE TRAINING OF A NORMAL REGISTER OF VOICE AND SPEECH SOUNDS IN DEAFMUTE CHILDREN PRACTICALLY WITHOUT ANY HEARING ABILITY (Inspol'zovanie Akusticheskogo Kontrolya dlya Postanovki Normal'nogo Registra Golosa i Zvukov Rechi u Glykhonemykh Detei Prakticheski Lishennykh Slukha). [1961] [18]p. 12 refs.
Order from OTS or SLA $1.60 62-15316

Trans. of Probl[emy] Fiziolog[icheskoi] Akustiki (USSR) 1950, v. 2, p. 129-138.

DESCRIPTORS: *Hearing, *Speech, Education, Children, Acoustics, Control, Training.

Stankov, A. G.
HEALTH AND LONGEVITY: EXCERPTS. 20 Nov 61 [36]p. JPRS: 11145.
Order from OTS or SLA $3.60 62-13532

Trans. of mono. [Zdorov'e i Dolgoletie] Moscow, 1960, p. 13-19, 55-79, 189-191.

DESCRIPTORS: *Aging, *Etiology, Diseases, *Public health.

Contents:
Causes of aging; struggle for longevity
What influences longevity
The fight for health and longevity in the USSR
Conclusions.

Wu, Shou-ching, Sha, Tung-shang, and Li, Hua-te.
RESEARCH ON THE PULMONARY FUNCTION. 22 Dec 61 [11]p. 5 refs. JPRS: 11614.
Order from OTS or SLA $1.60 62-13849

Trans. of Chung Hua Nei K'o Tsa Chih (Chinese People's Republic) 1960, v. 8, no. 1, p. 7-10.

DESCRIPTORS: *Respiration, Physiology, Respirometers, *Lungs.

An introductory survey is made of the accomplishments in pulmonary function research in China in the last 10 years or so (mostly on the work of the last 5 to 6 years). The survey is based on 29 published papers and some special subjects still under current investigation. Work still in progress and apparatus manufactured in China are described.

Zaks, M. G. and Titova, L. K.
HISTOLOGICAL AND HISTOCHEMICAL CHANGES IN THE RAT KIDNEY CAUSED BY HYDRATION AND ANTIDIURESIS (Gistologicheskie i Gistokhimicheskie Izmeneniya v Pochke Krys v Usloviyakh Gidratatsii i Antidiureza). Jan 62 [22]p. 14 refs. RTS 1985.
Order from OTS or SLA $2.60 62-13920

Trans. of Arkhiv Anatomii, Gistologii i Embriologii (USSR) 1959, v. 37, no. 7, p. 19-28.

DESCRIPTORS: Histology, *Cytochemistry, Pathology, *Kidneys, Water privation, Enzymes, Hormones, Diuretics, Hyaluronic acid, Hyaluronidase

The antidiuretic hormone causes apocrine secretion in the epithelium of the connecting parts and collecting tubules with resulting liberation of hyaluronidase. The latter enzyme induces depolymerization of the hyaluronic complexes in the intercellular cement of the tubular epithelium as well as in their interstices. This process is accompanied by sharp alternations in the histostructure of the given renal area, as a result of the depolymerization by the hyaluronic acid the permeability to water of the collecting tubules increases and the reabsorbed water is sucked in the lymph capillaries which in their majority open into the interstices of the renal pyramid. (Author)

Biochemistry

Heller, Jozef.
THE BIOCHEMISTRY AND BIOPHYSICS INSTITUTE. 16 Jan 62 [14]p. JPRS: 11979.
Order from OTS or SLA $1.60 62-19594

Partial trans. (some parts summarized) of Nauka Polska, 1961, v. 9, no. 1(33) p. 115-122.

DESCRIPTORS: *Biochemistry, *Laboratories, *Poland, History, Scientific personnel, Laboratory equipment, Training, *Biophysics

Macarsek, I. and Lorenz, V.
CHEMICALLY TREATED SACCMARIDE BINDERS. Mar 62.
Order from BISI £5 BISI-2601

Trans. of Slevarenstvi (Czechoslovakia) 1961, v. 9, no. 2, p. 41-46.

DESCRIPTORS: *Saccharides, Binders, Carbohydrates.

Trzeszczanowicz, Edward, Lipka, Barbara, and Buszynska, Barbara.
METHOD FOR THE PREPARATION OF NICOTINIC ACIDS. [1961] 3p.
Order from OTS or SLA $1.10 62-10688

Trans. of Polish patent 42,867, cl. 12p, 1/01, by Institute for General Chemistry, appl. 20 Feb 58, pub. 14 Mar 60.

DESCRIPTORS: *Nicotinic acid, Catalysts, Oxidation, Air, Ammonia, Temperature, Acids, Preparation, Vitamin B.

This invention consists in a catalytic oxidation of the mixture of 3- and 4-picolines by means of air and ammonia. For this purpose, a mixture of 3- and 4-picolines is passed in the gaseous state with air and ammonia over a catalyst, at a temperature of 300-450°C. Conditions such that both 3- and 4-picoline are oxidized parallely to the same extent with a high yield amounting to about 85% of the theoretical yield arise upon matching suitable parameters and catalyst. The mixture of nicotinic nitriles obtained according to the invention is converted by hydrolysis into a mixture of corresponding acids. The mixture of acids thus obtained is separated by means of simple known methods based on the difference of the solubility of these acids in two different solvents at suitably chosen temperatures, or by means of any known method. (Extracted)

Medical Specialties and Equipment

IMMEDIATE TASKS IN HEALTH PROTECTION OF WOMEN (Ob Ocherednykh Zadachakh Okhrany Zdorov'ya Zhenshchin). 13 Oct 61 9p. 1 ref. JPRS: 10476.
Order from OTS $0.50 61-31652

Trans. of Sovetskoe Zdravookhranenie (USSR) 1961 [v. 20, no. 6] p. 3-8.

DESCRIPTORS: *Public health, *Women, Childbirth, Gynecology, Children.

PREVENTION OF AEROGENIC INFECTIONS AND USES OF AEROSOLS FOR DISINFECTION THERAPY 24 Aug 61, 8p. JPRS: 9955.
Order from OTS $0.50 61-31586

Trans. of Voenno-Meditsinskii Zhurnal (USSR) 1957, no. 8, p. 70-80, 83-84 and from mono. Vses[ouyznyi] S'ezd Gigienistov, Epidemiologov, Mikrobiologov, i Infektsionistov (All-Union Congress of Hygienists, Epidemiologists, Microbiologists, and Infectionists (no. 13)) v. 1, Moscow, 1959, p. 218-220.

DESCRIPTORS: *Aerosols, Therapy, *Respiratory diseases, *Disinfectants, Compressors, *Ultraviolet radiation, Preventative medicine, Housing, Infections, Inhalation immunization, Decontamination.

Contents:
The use of combined aerosol therapy in disease of the respiratory organs, by G. F. Grigorenko and P. M. Koshkin
The use of aerosol disinfection by means of a compressor, by V. S. Odintsov
Irradiation of quarters with natural and artificial ultraviolet radiation as a method of preventing aerogenic infections, by M. L. Koshkin and others.

Anan'ev, V. M.
THE ELECTROENCEPHALOSCOPE (Elektroentsefaloskop). Sep 61 [17]p 4 refs. RTS 1948.
Order from OTS or SLA $1.60 61-28672

Trans. of Fiziologicheskii Zhurnal SSSR, 1956, v. 42, no. 11, p. 981-988.

DESCRIPTORS: *Medical equipment, *Electroencephalography, Bioelectronics, Diagnosis, Medicine.

A detailed description is given of the apparatus and its circuits.

Branovitser, Zigmund.
THE STATE OF HEALTH OF THE POPULATION OF POLAND. 7 Nov 61 [17]p. JPRS: 10936.
Order from OTS or SLA $1.60 62-13346

Trans. of Sovetskoe Zdravookhranenie (USSR) 1961 [v. 20] no. 6, p. 81-88.

DESCRIPTORS: *Public health, Poland, *Vital statistics, Infections, Diseases, *Childbirth, *Infants, Medicine, Sanitary engineering.

Derevyanko, D. G.
GAS ANALYZERS AND SIGNAL DETECTORS BEING USED IN INDUSTRIAL-HEALTH CHEMISTRY, tr. by Donald C. Rich and George F. Hill. 2 Jan 62 [9]p. AOMC Trans. nr 1-62.
Order from OTS or SLA $1.10 62-15429

Trans. of Novosti Meditsiny (USSR) 1952, v. 26, p. 65-68.

DESCRIPTORS: *Industrial medicine, Gases, Analysis, Signals, Detectors, Toxicity, Atmosphere, Instrumentation, Industrial plants.

Hryhorovs'kyi, I. M.
ARTIFICAL ORGANS (Shtuchni Orhany). 2 Oct 61 [16]p. JPRS: 10313.
Order from OTS or SLA $1.60 61-28860

Trans. of Nauka i Zhyttya (USSR) 1961 [v. 11] no. 3, p. 46-48.

DESCRIPTORS: *Artificial heart, *Artificial kidney, Artificial limbs, *Transplantation, Blood vessels, Plastics, *Medical equipments, Head.

Leonov, N.
SOME RESULTS OF THE FULFILLMENT OF THE YEARLY PLAN AND BUDGET BY THE PUBLIC HEALTH ORGANS. 2 Nov 61 [5]p. JPRS: 10904.
Order from OTS or SLA $1.10 62-13375

Trans. of Zdravookhranenie Tadzhikistana (USSR) 1961 [v. 8] no. 3, p. 57-58.

DESCRIPTORS: *Hospitals, Construction, Childbirth, Infants, Diseases, *Public health.

Narimanov, Z. M. and Parsadanyan, R. S.
PUBLIC HEALTH IN SOVIET ARMENIA DURING THE LAST 40 YEARS. 7 Nov 61 [14]p. JPRS: 10934.
Order from OTS or SLA $1.60 62-13317

Trans. of Sovetskoe Zdravookhranenie (USSR) 1961 [v. 20] no. 6, p. 52-58.

DESCRIPTORS: *Public health, History, Vital statistics, *Infections, Diseases, *Epidemiology, Surgery, Medicine, *Hospitals, *Sanitary engineering.

Nikobadze, I. I.
PUBLIC HEALTH OF THE GEORGIAN SSR OVER THE LAST FORTY YEARS. 1 Dec 61 [13]p. JPRS: 11252.
Order from OTS or SLA $1.60 62-13517

Trans. of Sovetskoe Zdravookhranenie (USSR) 1961 [v. 20] no. 6, p. 45-51.

DESCRIPTORS: *Public health, History, Growth, *Hospitals, *Construction, Scientific organizations.

Shmidt, L. A.
LUMINESCENT PHOTODIAGNOSCOPE. 13 Dec 61 [10]p. JPRS: 11510.
Order from OTS or SLA $1.10 62-13720

Trans. of Meditsinskaya Promyshlennost' SSSR [1961] v. 15, no. 7, p. 55-58.

DESCRIPTORS: *Medical equipment, *Diagnosis, Medical examination, Vision, Photography, *Mercury lamps, *Ultraviolet equipment, Instrumentation.

Microbiology

Biro, Jeno.
DATA ON THE BIOLOGIC PROPERTIES OF BACTERIA-FREE FILTRATES OF SWINE ERYSIPELAS BROTH CULTURES. [1961] [11]p.
Order from SLA $1.60 61-20444

Trans. of Allatorvosi Kozlony (Hungary) 1933, v. 30, p. 7-10.

DESCRIPTORS: *Immunology, Antibodies, Antigens, *Culture media, *Swine erysipelas.

Colla, C. and Treccani, V.
OXIDATIVE METABOLISM OF THE SATURATED CYCLIC HYDROCARBONS BY BACTERIA. I. IDENTIFICATION OF ADIPIC ACID AS AN INTERMEDIATE IN THE OXIDATION OF DECALIN. [1961] 7p. 7 refs.
Order from SLA $1.10 62-10332

Trans. of Annali di Microbiologia ed Enzimologia (Italy) 1960, v. 10, p. 77-81.

DESCRIPTORS: Oxidation, *Metabolism, Hydrocarbons, *Cyclohexanes, Adipic acids, Identification, *Bacteria, Decomposition.

Investigations on the oxidative metabolism of decalin by a Flavobacterium sp. and a schizomycete isolated from the soil have led to the identification of adipic and pimelic acids in the cultures. Cultural and manometric experiments have shown that adipic acid functions as an intermediate, but not pimelic acid, which is therefore considered to be the product of a non-enzymatic reaction. (Author)

Giacobini, Clelia.
GROWTH OF MICROORGANISMS ON A SYNTHETIC ADHESIVE. [1961] 9p. 7 refs.
Order from SLA $1.10 61-18620

Trans. of Ist[ituto] Centr[ale] del Restauro. Bolletino (Italy) 1958, v. 33, p. 19-26.

DESCRIPTORS: *Microorganisms, Growth, *Adhesives, Resins, Plasticizers, Fungi, Culture media, Carbon.

Previous tests (Ist. Centr. del Restauro. Bolletino 31/32: 108-113, 1957; available in translation from SLA $1.10 as 61-18270), wherein it was demonstrated that certain synthetic solid Vinavyls can constitute a carbon source usable by some microorganisms for their growth, were extended to synthetic adhesives composed of polyvinyl resins mixed with plasticizers. Results showed that these can be attacked by microorganisms, generally fungi. Aspergillus fumigatus is the most widespread species. To grow, however, it needs the symbiotic effect of other microorganisms, which the synergic effect of glucose and Vinavyl can substitute.

Giacobini, Clelia.
SYNTHETIC PLASTICS AS CARBON SOURCE FOR CERTAIN MICROORGANISMS. [1961] 10p. 3 refs.
Order from SLA $1.10 61-18270

Trans. of Istituto Centrale del Restauro. Boll[etino] (Italy) 1957, v. 31/32, p. 109-113.

DESCRIPTORS: *Microorganisms, *Carbon, Growth, *Plastics, Culture media, Fungi, Resins, Vinyl radicals, Acetates.

Experiments demonstrate how solid Vinavyls can be attacked by fungi. Growth is not noticeable, but is characterized by the formation of points of attack, from which the hyphae penetrate the innermost structure of the resin. Infiltration, which can be detected macroscopically, is also confirmed by microscopic observations. The mycelium of individual strains also grows immersed in culture fluid in the same way as hyphae inoculated in glucose solutions. In positive control test tubes, after approximately two weeks in thermostat, very abundant growth of hyphae is observed; in negative control test tubes growth is nil. (Author) (See also 61-18620)

Hanaoka, A., Harada, T., and Takizawa, T.
OXIDATION OF PROPARGYL ALCOHOL BY BACTERIA. [1962] 4p.
Order from ATS $7.50 ATS-05P59J

Trans. of [Nihon Nogei-Kagakkai Shi] (Japan) 1952, v. 26, no. 3, p. 151-154.

DESCRIPTORS: *Alcohols, Oxidation, *Bacteria.

Simakova, T. L., Gorskaya, A. I. and others.
CHARACTER OF PETROLEUM VARIATION UNDER ANAEROBICAL CONDITIONS BY THE BIOLOGICAL FACTOR. [1961] 47p. (48 refs. omitted) 8 refs.
Order from OTS or SLA $4.60 62-10427

Trans. of Vsesoyuz[nyi] Nauch[no]-Issledovatel'-[skii] Inst[itut] po Pererabotke Slantsev. Trudy (USSR) 1954, v. 2, p. 315-362

DESCRIPTORS: *Petroleum, *Anaerobiology, *Microorganisms, Hydrocarbons, Ethanes, Biosynthesis, Carbonhydrates, Albumins, Sulfur.

The effect of anaerobical microflora on petroleum variation was investigated on paraffinic and slightly paraffinic petroleum types. The character of the variation was a function of (1) the chemical composition of the petroleum, and (2) the composition of the microbiocenosis and of its medium of habitation (source of mineral nutrition, pH, etc.). Variation of paraffinic petroleum occurred with formation of water soluble organic substances of a predominently carbohydrate-albumine nature, because of diminishing hydrocarbons (especially paraffin). The slightly paraffinic, resinous petroleum changed toward an increase of the asphaltic-resinous components. A sulfur increase was noted in the asphaltic-resinous petroleum.

Zhukov-Verezhnikov, N. N., Maiskii, I. N. and others.
SPACE MICROBIOLOGY. 1 Dec 61 [16]p. 21 refs. JPRS: 11308.
Order from OTS or SLA $1.60 62-13396

Trans. of #Mikrobiologiya (USSR) 1961, v. 30, no. 5, p. 809-817.

DESCRIPTORS: *Microbiology, Microorganisms, *Space medicine, Space probes, Interstellar matter.

Information is reviewed on (1) the vital activity of terrestrial microorganisms when exposed to outer space, (2) the genetic consequences of the exposure of microorganisms to outer space, (3) the simplest forms of life beyond the confines of the Earth, and (4) the possibility of the migration of terrestrial microorganisms onto the surface of other planets.

Neurology and Psychiatry

FACTORS AFFECTING HIGHER NERVOUS AND CONDITIONED REFLEX ACTIVITY IN HUMANS AND ANIMALS UNDER EXPERIMENTAL CONDITIONS: [SELECTED ARTICLES]. 23 Dec 61 [76]p. 84 refs. JPRS: 11652.
Order from OTS or SLA $7.60 62-13859

Trans. of #Zhurnal Vysshei Nervnoi Deyatel'nosti (USSR) 1961, v. 11, no. 4, p. 586-592, 609-622, 674-679, 697-702, 730-737, 759-762.

DESCRIPTORS: *Nervous system, *Physiology, *High altitude, Flight, Ionization, *Motor reactions, Conditioned reflex, Anoxia, *Radiation sickness, X-rays, Acetylcholines, *Cerebral cortex, Ultraviolet radiation.

Contents:
A study of higher nervous activity in humans under conditions of prolonged stay in a rarefied atmosphere, by G. V. Altukhov and N. A. Agadzhanyan
Data concerning the characteristics of the functional state of higher branches of the central nervous system of individuals subjected to prolonged contact with ionizing radiation, by V. N. Zvorykin
Changes in motor conditioned reflexes in humans under conditions of hypoxic hypoxia and low barometric pressure, by V. N. Alifanov
Reproduction of certain symptoms of radiation sickness in dogs previously subjected to X-ray irradiation as indicated by changes in the complex conditioned reflex motor activity, by O. N. Voevodina
The effect of environmental high temperature on simultaneous complex conditioned reflexes in dogs, by L. M. Sidorova
The effect of cholinolytics of primarily central action on the conditioned reflex activity of rabbits, by P. P. Denisenko
The effect of single doses of ultraviolet irradiation on the higher nervous activity of animals, by E. F. Al'bitakaya and A. A. Krivova.

Bente, D. and Itil, T.
EEG CHANGES UNDER CHRONIC MEDICATION WITH PIPERAZINYL-PHENOTHIAZINE DERIVATIVES. [1961] 5p. 7 refs.
Order from SLA $1.10 61-20910

Trans. of Med[icina] Exp[erimentalis] (Switzerland) 1960, v. 2, p. 132-137.

DESCRIPTORS: *Electroencephalography, *Phenothiazine derivatives, Chlorpromazine, *Psychoses, Therapy, Acetylcholines, *Pyrazines.

Electroencephalograms during chronic medication with perphenazine and butyrylperazine show that, with these piperazine-phenothiazine derivatives, already in the initial phase of the treatment, there is a marked characterization of the alpha rhythm with increased amplitude and slowing, and increased rhythmic continuity. Depending on the individual response and the amount of the daily dosage, there can appear, in addition to these changes, a general dysrhythmia and a marked slowing of the basic activity. By additional medication with anti-Parkinson drugs, the extent of the dysrhythmic, general changes are considerably diminished. (Author)

Fekete, Janos.
A SHORT HISTORY OF THE NATIONAL NEUROLOGICAL AND MENTAL INSTITUTE. 10 Jan 62 [½]p. JPRS: 11883.
Order from OTS or SLA $1.10 62-19604

Partial trans. (some parts summarized) of Ideggyogyaszati Szemle (Hungary) 1961, v. 14, no. 2, p. 56-62.

DESCRIPTORS: *Hospitals, *Mental diseases, Neurology, History.

Persic, Nikola and Koporcic, Petar.
POLYCLINICAL AND OUTPATIENT PSYCHIATRIC SERVICES IN CROATIC. 12 Jan 62 [6]p. JPRS: 11930.
Order from OTS or SLA $1.10 62-19629

Partial trans. (some parts summarized) of Lijecnicki Vjesnik (Yugoslavia) 1961, v. 83, no. 5, p. 445-458.

DESCRIPTORS: *Hospitals, Yugoslavia, *Therapy, *Psychoses, Psychoneuroses, Medical personnel.

Pathology

ACTA ENTOMOLOGICA SINICA, 1959, VOL. 9, NO. 5: SELECTED TRANSLATIONS. 17 Nov 61 [31]p. 35 refs. JPRS: 11153.
Order from OTS or SLA $3.60 62-13650

Trans. of K'un Ch'ung Hsüeh Pao (Chinese People's Republic) 1959, v. 9, no. 5, p. 452-459 and 483-490.

DESCRIPTORS: *Mites, *Trombiculidae, *Disease carriers, Growth, Age, Ecology, *Typhus fever, Laboratory equipment, *Mosquitoes, *Insect control, Eggs, Diptera, Parasitology, Fevers

Contents:
Studies on the life history of chigger mites (Acariformes, Trombiculidae) (Studies on Tsutsugamushi, part XXII) by Hsu Yin-ch'i
A survey of mosquitoes in Tsinan, by Lu Pu-yen
A brief report on research; the presence of Phlebotomus chinensis Newstead (1916) in Kweiyang, by Wang Chü-sheng
Other articles in Acta Entomologica Sinica, v. 9, no. 5.

BULLETIN OF THE SCIENTIFIC MEDICAL COUNCIL OF THE MINISTRY OF HEALTH RSFSR, 1961, NO. 1: EXCERPTS. 1 Aug 61 [71]p. JPRS: 9858.
Order from OTS or SLA $7.60 61-27652

Trans. of Byulleten' Uchenogo Meditsinskogo Soveta (USSR) 1961 [v. 2] no. 1, p. 3-43.

DESCRIPTORS: *Public health, *Medical personnel, Training, Research program administration, Education, Medicine, Universities, Gynecology, Childbirth, Climatic factors, Adjustment (Psychology), Nutrition, Heart.

Contents:
To insure broader participation of practising physicians in scientific research work, by N. A. Bobrovski
Results of scientific research on oncology in the institutions of the Ministry of Health RSFSR (1958-60) by A. N. Novikov and A. I. Ageenko
Planning of scientific research in institutions of the Ministry of Health RSFSR, by Z. E. Grigor'ev
On specialization at higher medical schools and the place of the cardiologic clinic in the organization of aid to patients with cardiovascular diseases, by A. A. Kedrov
The work of the engineer in the clinic, by L. A. Varshamov
From the experience of using practising physicians in scientific work at the Kursk medical institute, by A. V. Savel'ev
The training of scientific-pedagogical cadres at the Ivanovo Medical Institute, by D. A. Bassalyk
Experience in the work of the All-Russian Scientific Medical Society of Obstetricians-Gynecologists in 1957-60, by K. N. Zhmakin
Conference on the problem of acclimatization and nutrition of the population in the Far North, by I. A. Arnol'di
At the presidium of the Scientific Medical Council of the Ministry of Health RSFSR, by E. K. Ponomar'

CONFERENCE OF THE SECTIONS OF THE "J. EV. PURKYNE" CZECHOSLOVAK MEDICAL SOCIETY. 18 Sep 61 [8]p. JPRS: 4979.
Order from OTS or SLA $1.10 62-19518

Trans. of Lekarsky Obzor (Czechoslovakia) 1961, v. 10. no. 2, p. 125-127.

DESCRIPTORS: *Conferences, *Allergy, *Skin, *Diseases, *Venereal diseases, Medical research.

Contents:
Symposium of section on allergies, by Hegyi
Meeting of the dermatology-venerology section.

NEWS OF ESTONIAN MEDICAL SCIENCE, 1960, NO. 4: [SELECTED ARTICLES]. 5 July 61 [29]p. JPRS: 9627.
Order from OTS or SLA $2.60 61-27058

Trans. of [Zdravookhranenie Sovetskoi Estonii] (USSR) 1960, no. 4, p. 3-6 and 77-79.

DESCRIPTORS: *Public health, *Conferences, *Universities, Medical personnel, Medical research

Contents:
20 Years of Soviet public health service in Estonia, by A. Goldberg
Conference of the Collegium of the ministry of Public Health, Estonian SSR, by A. Sarap
Scientific conference of the medical faculty of Tartu State University, dedicated to the 20th anniversary of the Estonian SSR, by V. Kalnin and M. Uybo.

THE 1961 PLAN FOR POSTGRADUATE MEDICAL TRAINING. 10 Jan 62 [12]p. JPRS: 11886.
Order from OTS or SLA $1.60 62-19603

Trans. of Orvoskepzes (Hungary) 1961, v. 36, no. 1, p. 76-80.

DESCRIPTORS: *Medical personnel, Training.

RESUME OF THE ALL-UNION CONFERENCE OF THE MOST ACTIVE PUBLIC HEALTH WORKERS. 14 Feb 62 [10]p. JPRS: 12526.
Order from OTS or SLA $1.10 62-19152

Trans. of Sovetskaya Meditsina (USSR) 1961 [v. 25] no. 4, p. 3-8.

DESCRIPTORS: Conferences, *Public health.

SCIENTIFIC RESEARCH IN THE FIELD OF HEALTH. 22 May 61 [10]p. JPRS: 8320.
Order from OTS or SLA $1.10 62-19202

Trans. from Muncitorul Sanitar (Rumania) 1961, v. 11, no. 2(554) p. 3.

DESCRIPTORS: *Conferences, *Public health, *Rumania, Industrial medicine, Medical research, Epidemiology.

SOVIET PUBLIC HEALTH, 1961, NO. 8: SELECTED ARTICLES. 26 Dec 61, 43p. JPRS: 11651.
Order from OTS $1.25 62-11089

Trans. of Sovetskoe Zdravookhranenie (USSR) 1961 [v. 20] no. 8, p. 13-30, 35-47, 89-90.

DESCRIPTORS: *Medicine, Ultrasonic radiation, *Medical equipment, Medical examination, *Electronic equipment, *Radio equipment, Automation, Hospitals, Diagnosis, Therapy, *Surgery, Helicopters, Transportation, *Cybernetics, Public health.

Contents:
Engineering in medicine, by M. G. Anan'ev
Ultrasound in medicine, by M. D. Gurevich and others
Radioelectronics in medicine, by L. N. Mishin
Medical cybernetics for Soviet public health, by L. E. Polykov
Some prospects of comprehensive mechanization of hospital work, by B. A. Pokrovskii
Problems of mechanization of labor processes in the diagnosis and treatment of patients, by V. G. Frankovskaya
Incorporation of new apparatus into surgical practice, by Yu. Ya. Gritsman
MI-4 operating-room-transport helicopter, by M. G. Anan'ev and others
Exhibit of work of the All-Union Scientific Research Institute of Medical Instruments and Equipment, by L. S. Tolokonnikov.

Aleksandrov, N. I., Gefen, N. E. and others.
CERTAIN PROBLEMS IN THE THEORETICAL AND EXPERIMENTAL DEVELOPMENT OF THE AEROSAL VACCINATION METHOD. 23 Oct 61 [7]p. JPRS: 10785
Order from OTS or SLA $1.10 62-13267

Trans. of Zdravookhranenie Rossiiskoi Federatsii (USSR) 1961, v. 5, no. 4, p. 10-13.

DESCRIPTORS: *Inhalation immunization, Immunization, *Bacterial aerosols, Aerosols.

The aerosal method makes it possible to vaccinate large numbers of people in a short period of time and with a comparatively low expenditure of cash and labor. Tested on thousands of humans and with many variations of live (brucellosis, rabbit-fever) and dead (botuline, diphtheria, typhoid, dysenteric) spray vaccines, the method of aerogenic immunization was absolutely harmless, had no after-effects and was weakly reactogenic. It is apparently completely free of many postvaccination afflictions sometimes complicating parenteral innoculations. The effectiveness of the aerogenic immunization method with spray vaccines is not less effective than subcutaneous innoculations. For example, identical effectiveness of subcutaneous and aerogenic methods of immunization has been established in the utilization of brucellosis, rabbit-fever, botuline, tetanus and diphtheria vaccines.

Al'perin, P. M. and Zherebtsov, L. A.
EXPERIENCE GAINED IN USING THE THROMBOCYTE MASS IN CASES OF THROMBOCYTOPENIA. 20 Nov 61 [13]p. 4 refs. JPRS: 11155.
Order from OTS or SLA $1.60 62-13549

Trans. of Klinicheskaya Meditsina (USSR) 1961, v. 39, no. 8, p. 36-41.

DESCRIPTORS: *Blood platelets, Therapy, *Thrombopenia, Hemorrhage, Blood coagulation, Anemia.

Repeated transfusions of thrombocyte mass are an effective method of combatting bleeding in thrombocytopenic conditions of various origin. They are well tolerated by patients and, as a rule, cause no side effects. In the majority of thrombocytopenia patients, after transfusion of the thrombocyte mass there is observed together with a distinct hemostatic effect an increase of the amount of thrombocytes and reduction of bleeding time. Repeated transfusions of this preparation lead to the cessation of bleeding, normalization of bleeding time and blood clot retraction, and the disappearance of tourniquet and pinch symptoms. Sometimes, during the process of transfusion therapy, a transitory reduction of the number of thrombocytes is observed

which is usually followed by its stable increase. Cessation of bleeding, reduction of bleeding time and the improvement of blood clot rectractability following transfusion of the preparation are observed not only with the increase of thrombocyte count, but also in the absence of an appreciable increase and, even, during the period of its transitory decrease. This is apparently connected with the liberation of thromboplastic factors of thrombocytes following their disintegration. (Author)

Aver'yanov, V. A., Gramenitskii, P. M., and Savich, A. A.
CHANGES IN THE LEVEL OF THE MAXIMUM PERMISSIBLE SUPER-SATURATION OF THE BODY WITH NITROGEN WITH FREQUENT REPETITION OF THE EXPERIMENTS (Izmeneniya Velichiny Predel'no Dopustimogo Peresyshcheniya Organizma Azotom pri Mnogokratnom Povtorenii Opytov). 3 Nov 61 [7]p. 7 refs. JPRS: 10841.
Order from OTS or SLA $1.10 62-13363

Trans. of Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya (USSR) 1961, v. 5, no. 4, p. 50-52.

DESCRIPTORS: *Nitrogen, *Body fluids, *Decompression sickness, Gas embolism, Pathology.

Where the repeated determination of the level of the maximum permissible supersaturation of the body with nitrogen (going to a lower pressure after the dog became sick and increasing the pressure in subsequent experiments) a steady increase in this level is noted, which in the recalculation for the total pressure reaches 0.4-0.6 and even 0.8 atmosphere. Evidently, the level of this supersaturation depends to a considerable degree on causes of a physiological nature and by virtue of this is subject to variations. A single determination of the level of the maximum permissible supersaturation with nitrogen cannot serve as a reliable criterion of the resistance of the body to caisson disease. (Author)

Berezov, T. T.
COMPARATIVE STUDIES OF TRANSAMINASE ACTIVITY IN MALIGNANT TUMORS (Sravnitol'noe Issledovanie Aktivnosti Transaminaz v Zlokachestvennykh Opukholyakh). 21 Nov 61 [15]p. 38 refs. JPRS: 11169.
Order from OTS or SLA $1.60 62-13530

Trans. of Voprosy Meditsinskoi Khimii (USSR) 1961, v. 7, no. 4, p. 417-424.

DESCRIPTORS: *Amino acids, *Enzymes, *Tumors, Sarcoma, Cancer, Glutamine, Aspartic acid, Glutamic acid, Phenylalanine, *Proteins, Metabolism.

Data in the literature lead to the conclusion that primary tumors of man contain a number of active transaminases; this fact corresponds to the high protein-synthesizing property of malignant tumors cells; in experimental transplanted tumors many transaminases are either absent entirely, or their activity is extremely low. (Author)

Bogatyrev, I. D.
FOR THE CONSTANT IMPROVEMENT OF MEDICAL CARE FOR INDUSTRIAL WORKERS (Neustanno Uluchshat' Meditsinskoe Obsluzhivanie Promyshlennykh Rabochikh). 18 Oct 61 [10]p. 1 ref. JPRS: 10570.
Order from OTS or SLA $1.10 62-13023

Trans. of Zdravookhranenie Rossiiskoi Federatsii (USSR) 1961 [v. 5] no. 8, p. 3-7.

DESCRIPTORS: *Industrial medicine, Diseases, Inhibition, Public health, Medicine.

Cannata, Carmine.
CONSIDERATIONS ON POIKILODERMIA VASCULARIS ATROPHICANS OF JACOBI WITH SPECIAL REGARD TO A RETICULAR-HISTOLOGICAL INTERPRETATION (Considerazioni sulla Poikilodermia Vascularis Atrophicans di Jacobi con Particolare Riguardo a un' Interpretazione Reticolo-Istiocitaria). [1961] [10]p. 26 refs.
Order from SLA $1.10 62-10195

Partial trans. (p. 226-229) of Minerva Dermatologica (Italy) 1953, v. 28, Sep, p. 221-229.

DESCRIPTORS: *Skin, Diseases, Diagnosis, *Etiology, Therapy, Tissues (Biology), Reticulocytosis Pathology, Histology.

We arrived at the conclusion that the poikilodermia vascularis atrophicans must be considered as a morbus entity well distinct in the group of the cutaneous idiopatic atrophies, and as a reticulo histiocytary inflammatory form of vascular origin. (Author)

Domok, Istvan and Molnar, Erzsebet.
ENTEROVIRUS TESTS IN CONNECTION WITH THE 1959 POLIO EPIDEMIC IN HUNGARY. 10 Jan 62 [24]p. JPRS: 11885.
Order from OTS or SLA $2.60 62-19606

Trans. of Orvosi Hetilap (Hungary) 1961, v. 102, no. 28, p. 1306-1313.

DESCRIPTORS: *Intestines, *Poliomyelitis virus, *Classification, Indentification, Antibodies, *Immunization, Epidemiology, *Hungary.

Ejrup, B.
POLYCLINICS FOR BREAKING THE SMOKING HABIT. 1962, 20p.
Order from K-H $25.00 K-H9477-a

Trans. of Svenska Läkartidningen, 1959, v. 56, 3 July 59, p. 1899-1911

DESCRIPTORS: *Smokes, *Tobacco, Toxicity, Therapy.

Forsgren, Eris.
IS [NICOTINISM] AN INCURABLE PUBLIC DISEASE? 1962, 12p.
Order from K-H $15.00 K-H 10401-a

Trans. of [Svenska Lakartidningen] 1960, v. 57, no. 6, p. 398-406.

DESCRIPTORS: *Nicotine, Toxicity, *Smokes.

Fossati, Carlo.
TOBACCO SMOKE AND PULMONARY TUMORS. 1962, 14p.
Order from K-H $17.50 K-H 11548-b

Trans. of Minerva Medica (Italy) 1961, v. 52, no. 70, p. 2964-2968.

DESCRIPTORS: *Tobacco, *Smokes, *Lungs, *Neoplasms, *Tumors.

Hudemann, H.
CONTROL OF INFECTIOUS HEPATITIS. 6 Mar 61 [5]p. JPRS: 4431.
Order from OTS or SLA $1.10 62-19371

Trans. from Volksstimme (East Germany) 1961, no. 14, p. 5.

DESCRIPTORS: *Hepatitis, Therapy, Etiology, Inhibition, Antibodies, *Epidemiology.

Jerina-Lah, Paula.
YUGOSLAV PLASMA PROGRAM. 23 Jan 62 [10]p. JPRS: 12105.
Order from OTS or SLA $1.10 62-19580

Partial trans. (some parts summarized) of Medicinski Glasnik (Yugoslavia) 1961 [v. 15] no. 6, p. 238-243.

DESCRIPTORS: *Blood plasma, *Yugoslavia, *Plasma transfusions, Hepatitis, Transmission.

Kovalenko, E. A. and Yurkov, Yu. A.
THE GASEOUS COMPOSITION OF GAS BUBBLES IN HIGH-ALTITUDE TISSUE EMPHYSEMA (O Gazovom Sostave Puzyrei Vysotnoi Tkanevoi Emfizemy) 3 Nov 61 [8]p. 14 refs. JPRS: 10837.
Order from OTS or SLA $1.10 62-13371

Trans. of Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya (USSR) 1961, v. 5, no. 4, p. 26-29.

DESCRIPTORS: *High altitude, Gases, *Gas embolism, *Tissues (Biology), Pathology, Body fluids, Barometeric pressure, *Bubbles.

The development of high-altitude tissue emphysema in albino rats kept at low atmospheric pressure (7 to 8 mm of Hg) for one minute does not cause the death of the animals in the majority of cases. In the initial period of formation of subcutaneous bubbles of high-altitude emphysema (the first 10 seconds after decompression) there is chiefly N_2 in the gas composition and carbon dioxide and oxygen to a lesser degree. With the increase in the high-altitude tissue emphysema the quantity of CO_2 in the subcutaneous bubbles increases, and the N_2 content decreases. (Author)

Lang, N., Schottler, G., and Wildhack, R.
A CASE OF "AGAMMAGLOBULINEMIA" AND THE BEHAVIOR OF PARENTERALLY ADMINISTERED RADIOACTIVELY TAGGED GAMMA-GLOBULIN IN THE SERUM. [1961] 25p. (7 figs. omitted) 26 refs.
Order from SLA $2.60 62-10392

Trans. of Klinische Wochenschrift (Germany) 1954, v. 32, no. 35/36, p. 856-863.

DESCRIPTORS: *Infections, *Antibodies, *Plasma proteins, Metabolism, Diagnosis, *Electrophoresis, Labeled substances, Excretion, Blood.

Leites, B. G.
THE INCIDENCE OF RHEUMATISM IN SCHOOL AGE CHILDREN (Porazhennost' Revmatizmom Detei Shkol'nogo Vozrasta). 27 Oct 61 [8]p. JPRS: 10747.
Order from OTS or SLA $1.10 62-13250

Trans. of Pediatriya (USSR) 1961 [v. 39] no. 8, p. 11-15.

DESCRIPTORS: *Rheumatism, Vital statistics, Children, *Public health, Housing, Pharynx, *Suppurative infections.

A total of 75,000 children 7 to 15 years old were examined: 20,000 in Moscow and 55,000 in the other localities (Smolensk, Leningrad, Ufa, Sverdlovsk, Omsk, and Stanilinsk). The rheumatism incidence in Moscow comprised 2.76% (M± 0.48), in other cities 3.1% (with variations of 1.2 to 4.6%. In Moscow the greatest incidence was elicited in eight schools located in the central sections of the city. Of 7038 children attending these schools, an average of 3.2% suffered from rheumatism. Of 3142 children from three schools in the outlying sections of the city with better gardening 2.2% of rheumatic cases were elicited, in one of these schools only 1.2%. The study of causes of higher morbidity in one of the central sections of the city revealed a considerable congestion of the population, insufficient tree planting, and a considerable incidence of chronic focal nasopharyngeal infections among the school children.

Luts, A.
ALL-UNION CONFERENCE ON PROBLEMS OF AERO- AND HYDROAEROIONIZATION. 11 Oct 61 [4]p. JPRS: 10458.
Order from OTS or SLA $1.10 61-28918

Trans. of Zdravookhranenie Sovetskoi Estonii (USSR) 1960, no. 5, p. 69.

DESCRIPTORS: *Conferences, *Aerobiology, Inhalation immunization.

Magakyan, G. O. and Miminoshvili, D. I.
DISTURBANCES OF DIURNAL AND NOCTURNAL VARIATIONS OF SEVERAL PHYSIOLOGICAL FUNCTIONS IN NEUROSIS. 28 Sep 61 [4]p. 3 refs. NIH no. 9-18-61.
Order from OTS or SLA $1.10 61-28686

Trans. of Byulleten Eksperimental'noi Biologii i Meditsiny (USSR) 1955, v. 39, no. 3, p. 27-29.

DESCRIPTORS: *Psychoneuroses, Conditioned reflex, *Behavior, Physiology, Respiration, Blood pressure, Body temperature, *Cerebral cortex, Nervous system, *Diurnal variation.

Experiments with monkeys showed that, during neurotic conditions, the normal 24-hour rhythm of certain physiological functions is disturbed. This is due to the disturbance of the normal functional correlation between the cerebral cortex and the subcortical centers.

Natradze, A. G. and Baichikov, A. G.
A HIGHER LEVEL OF SCIENTIFIC RESEARCH WORK. 26 Jan 62 [14]p. JPRS: 12192.
Order from OTS or SLA $1.60 62-15653

Trans. of Meditsinskaya Promyshlennost' SSSR, 1961 [v. 15] no. 9, p. 12-16.

DESCRIPTORS: *Scientific research, *Medical research, Public health.

The Soviet nation is mobilizing its creative energy and searching for new reserves in order to mark the opening of the 22nd Congress of the Communist Party of the Soviet Union by new labor victories and achievements. There is no doubt that the scientists of the Soviet Union under the leadership of the Communist Party will greet the 22nd Congress of the CPSU with new achievements and will pay a worthy contribution to the building of communism. By opening a socialistic competition for a successful fulfillment of the obligations assumed, for an increase of the quality of scientific research and preparing a worthy greeting to the 22nd Congress of the CPSU the collectives of the branch institutes of the medical industry persistently and unremittingly work on the solution of the problems assigned to them by the Party and the government. (Extract)

Osetowska, Ewa.
PRESENT FORMS OF PRIMARY ENCEPHALITIS. 8 Feb 61 [14]p. JPRS: 6706.
Order from OTS or SLA $1.60 62-19305

Trans. of Polski Tygodnik Lekarski, 1960, v. 15, no. 33, p. 1271-1276.

DESCRIPTORS: *Encephalitis, Inflammation.

Paches, A. I.
THE MAIN PROBLEMS IN THE FIGHT AGAINST CANCER IN THE TADZHIK SSR. 1 Nov 61 [6]p. JPRS: 10903.
Order from OTS or SLA $1.10 62-13355

Trans. of Zdravookhranenie Tadzhikistana (USSR) 1961 [v. 8] no. 3, p. 3-6.

DESCRIPTORS: *Cancer, Therapy, *Diagnosis, Hospitals, Education, Population.

Pachner, P.
BIOGRAPHY OF DOCENT DR. JINDRICH URBANEK (SEVENTY-FIFTH BIRTHDAY. 8 Dec 60 [6]p. JPRS: 4251.
Order from OTS or SLA $1.10 62-19304

Trans. of Pracovni Lekarstvi (Czechoslovakia) 1959 [v. 11] no. 8, p. 432-433.

DESCRIPTORS: *Medical personnel, Pathology, *Medicine.

Panchenko, D. I.
THE BIOTRON RESTORES THE SICK (Biotron Ztsilyae Khvorykh). 31 Aug 61, 10p. JPRS: 10014.
Order from OTS $0.50 61-31596

Trans. of Nauka i Zhyttya (USSR) 1961 [v. 11] no. 1, p. 35-38.

DESCRIPTORS: *Medical equipment, Therapy, *Hypertension, Diseases, Nervous system, *Climatic factors, Barometric pressure, Temperature, Humidity, Oxygen, Ions, Bacteria.

A biotron is a specially constructed hermetically tight building in which, with the aid of apparatus situated elsewhere, a constant regimen is established for the patient: the temperature of the air, the relative humidity of the atmosphere, the barometric pressure, the oxygen content, the ionic content, etc. (Extract)

Panisset, Maurice, Frappier, Armand and others.
THE EFFECT OF ANTI-CYTOTOXIC SERUM ON THE FORMATION OF ANTITOXINS WITH HORSES BY THE HYPERIMMUNIZATION METHOD. [1961] 6p.
Order from SLA $1.10 61-20580

Trans. of Academie Vétérinaire de France. Bulletin, 1949 [v. 22] p. 145-150.

DESCRIPTORS: *Immunology, *Antibodies, *Antigens, *Stimulation, Cells (Biology), Serum, *Antiorgan serum, Swine erysipelas, Horses.

Pont, G. Dal.
ANABOLIZERS IN THE TREATMENT OF DENTAL HYPERSENSITIVITY. [1961] 6p. 25 refs.
Order from SLA $1.10 61-20916

Trans. from Rassegna Trimestrale di Odontoiatria (Italy) 1960, v. 41, no. 3.

DESCRIPTORS: *Teeth, Sensitivity, Dentine, *Proteins, *Metabolism, Therapy, Drugs, Tissues (Biology), Steroids, Testosterone, Androgens, Adrenal cortical extract.

The authors, starting from the observation of the onset of dentinal hypersensitivity in subjects treated with cortisones, and on the basis of theoretical and practical presumptions of the favorable effect of sexual steroids on the mineralization in antagonism with cortisones, report some preliminary observations on the efficacy of anabolizing steroids for oral administration in dentinal hypersensitivity. (Author)

Popovic, B.
THE PROBLEM OF ZOONOSES IN SERBIA. 19 July 61 [17]p. 6 refs. JPRS: 4826.
Order from OTS or SLA $1.60 62-19706

Trans. of Higijena (Yugoslavia) 1960, v. 12, no. 4. p. 374-386.

DESCRIPTORS: *Anthrax, *Rabies, *Glanders, *Tuberculosis, *Brucellosis, *Erysipeloid, *Q-fever, *Public health, Medicine, Veterinary medicine.

Repin, I. S.
CHANGE IN THE ELECTROENCEPHALOGRAM AND IN THE REACTIVITY OF THE BRAIN UNDER CONDITIONS OF HYPERCAPNIA (Izmenenie Elektroentsefalogrammy i Reaktivnosti Mozga v Usloviyakh Giperkapnii). 3 Nov 61 [13]p. 54 refs. JPRS: 10836.
Order from OTS or SLA $1.60 62-13361

Trans. of Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya (USSR) 1961, v. 5, no. 4, p. 20-26.

DESCRIPTORS: *Carbon dioxide, *Hypothermia, *Electroencephalography, *Hypercapnia, *Brain.

Hypercapnia in rabbits causes a marked depression (and sometimes complete disappearance) of the EEG of different areas of the brain (cortex, hypothalamus and pons), which is observed even in subanesthetic concentrations of CO_2 (10-20%). Depression of the EEG through the inhalation of 10-30 percent CO_2 is most marked in the cerebral cortex and is maintained for the entire period of hypercapnia (six-eight hours). EEG changes thereby are not associated with respiratory or circulatory disorders and are readily reversible. Hypercapnic depression of the EEG is different in principle from the "desynchronization reaction", being completely preserved under conditions of the pharmacological exclusion of the activating influence of the reticular formation of the brain stem (anesthetics, thorazine). Subanesthetic doses of CO_2 (10-20 percent) completely eliminate the reactive changes of the EEG and the heat-regulatory muscle tone (electromyogram) from general cooling. (Author)

Rudowski, Witold and Laskowski, Josef.
ON THE WORK OF THE ONCOLOGY INSTITUTE IN WARSAW. 16 Jan 62 [13]p. JPRS: 12006
Order from OTS or SLA $1.60 62-19610

Partial trans. (some parts summarized) of Nauka Polska, 1961, v. 9, no. 1 (33) p. 160-171.

DESCRIPTORS: *Cancer, *Vital statistics *Poland, Therapy, Diagnosis, Etiology, Hospitals.

Taukenov, M. T.
COMPARATIVE EVALUATION OF MONO AND BIACTIVE ELECTROCOAGULATION OF BLADDER TUMORS. 9 Feb 62 [9]p. JPRS: 12477.
Order from OTS or SLA $1.10 62-15936

Trans. of Zdravookhranenie Kazakhstana (USSR) 1961, v. 21, no. 10, p. 16-20.

DESCRIPTORS: Therapy, *Tumors, *Urinary tract, *Electric currents, Gamma rays, Neoplasms, Coagulation.

From 1953 to 1961, 68 patients in the urological clinic were treated by electrocoagulation on the opened [lanced] bladder; 24 of them, by the monoactive method and 44 by the biactive method. The genuine recurrences with the monoactive method 27.7%, and with the biactive method 6%. This data confirms the experimental research of S. M. Shamrayevskiy showing the superiority of the biactive method of coagulation over the monoactive method. But even the biactive method of electrocoagulation does not prevent indirect recurrences which depend on the biological particularities of bladder tumors. Therefore all patients should be kept under clinical observation following biactive electrocoagulation, so that prompt diagnosis of new tumors in other parts of the bladder can be made. Electrocoagulation (of any sort) should not be performed when the tumor grows through the muscular layer of the bladder wall.

Vinokurova, G. P. and From, A. A.
CHANGE IN RENAL FUNCTION IN PATIENTS SUFFERING FROM BURN DISEASE DURING THE TRANSFUSION OF POLYVINYLPYRROLIDONE. 21 Nov 61 [7]p. 3 refs. JPRS: 11157.
Order from OTS or SLA $1.10 62-13552

Trans. of Klinicheskaya Meditsina (USSR) [1961] v. 39, no. 8, p. 66-68.

DESCRIPTORS: *Kidneys, Pathology, Therapy, *Burns, *Plasma substitutes, *Vinylpyrrolidone, Urine, *Intravenous injections.

The functional renal properties during the toxemic phase of burn disease is inhibited at the expense of a reduced renal blood flow and diminished glomerular filtration. During the toxic phase of burn disease, the patients manifest a low diuresis, despite the decrease of water reabsorption in the tubules. The low-molecular polyvinylpyrrolidone possesses a specific (as compared with other blood substitutes) property of increasing diuresis at the expense of enhanced renal blood flow and glomerular filtration. (Author)

Zhdanov, V. M., Lebedev, D. D. and others.
CLINICAL AND EPIDEMIOLOGICAL OBSERVATIONS OF CHILDREN INOCULATED WITH MEASLES TISSUE VACCINE. [1961] 6p. 11 refs.
Order from OTS or SLA $1.10 61-28715

Trans. of Pedriatriya (USSR) 1960 [v. 38] no. 6, p. 62-66.

DESCRIPTORS: *Measles, *Virus vaccines, Tissue culture, Immunization, Children.

Observations showed that measles tissue vaccines prepared by the D. I. Ivanozskii Virology Institute of the Academy of Medical Sciences USSR had few side reactions when given to children of from to 3-1/2 years. The reactions were somewhat more marked when our test vaccine derived from USSR 1958 $TACh_4$ strain was administered to children in their first year. The intragroup contact reactions to the vaccine on the part of uninoculated children were observed to have a mild course and did not spread measles infection. Two inoculations with measles tissue vaccine do not insure adequately vigorous immunity, so that children who have not completed the complete series of inoculations must be given gamma globulin in the event of contact with cases of measles. (Author)

Vishnevskii, A. A., Shraiber, M. I., and Dolgina, M. I.
SKIN HOMOPLASTY IN BURN DISEASE PATIENTS. 1 Dec 61 [8]p. JPRS: 11350.
Order from OTS or SLA $1.10 62-13637

Trans. of Akademiya Meditsinskikh Nauk SSSR. Vestnik, 1961 [v. 16] no. 8, p. 8-12.

DESCRIPTORS: *Transplantation, *Skin, *Burns, Therapy, Allergy, Surgery.

Zaslavskaya, N. A.
ELECTROPHORETIC STUDY OF THE FRACTIONS OF PROTEINS, LIPO- AND GLUCO-PROTEIDS OF THE BLOOD SERUM IN EPIDEMIC HEPATITIS. 17 Oct 61 [12]p. 8 refs. JPRS: 10589.
Order from OTS or SLA $1.60 62-13026

Trans. of Terapevticheskii Arkhiv (USSR) 1961, v. 33, no. 6, p. 41-46.

Portions of this report will not reproduce well.

DESCRIPTORS: *Electrophoresis, *Blood proteins, *Hepatitis, Lipoproteins, Glucose, Albumins.

An examination 44 patients showed that in epidemic hepatitis (Botkin's disease) the content of the total quantity of protein is normal. Certain dysproteinemia phenomena are observed which manifest themselves in hypoalbuminemia and hypergammaglobulinemia. The extent of dysproteinemia depends on the gravity of the pathological process. In many cases where epidemic hepatitis is complicated by cholangitis the fraction of beta-globulins rises. The alpha-lipoproteids of the blood serum decrease prior to the crisis and revert to norm toward the time of recovery; beta-lipoproteids are slightly higher prior to crisis and revert to norm after the crisis; $alpha_1$-lipoproteids increase prior to crisis, continue rising after the crisis, and decrease only shortly before the patient's discharge; the $alpha_1$-lipoproteids in mind forms of the disease are normalized more rapidly than in cases of medium gravity. The glucoproteid fraction, bound with albumins, is considerably reduced prior as well as after the crisis; $alpha_2$-glucoproteids increase at the height of the disease and become normalized at the time of the patient's recovery; beta-glucoproteids are above norm prior to the crisis in all cases and continue to increase after the crisis.

Zhukhovitskii, M. S., Krein, Z. E., and Osennyaya, A. A.
CONCERNING THE PROBLEM OF THE TRAINING AND TREATMENT OF CHILDREN WITH POLIOMYELITIS SEQUELAE AT SPECIAL BOARDING SCHOOLS (K Voprosu ob Obuchenii i Lechenii Detei s Posledstviyami Poliomielita v Usloviyakh Spetsshkoly-Internata). 26 Dec 61 [15]p. JPRS: 11653.
Order from OTS $0.50 62-11087

Trans. from Pediatriya (USSR) 1961 [v. 39] no. 10,

DESCRIPTORS: *Poliomyelitis, *Paralysis, Therapy, Children, Education.

Pharmacology and Toxicology

Arbuzov, Yu. A., Berlin, Yu. A. and others.
A STUDY OF THE METHODS OF SYNTHESIS OF TETRACYCLINES. [1962] 10p.
Order from ATS $12.95 ATS-51P59R

Trans. of #Antibiotiki (USSR) 1961, v. 6, no. 7, p. 585-594.

DESCRIPTORS: Synthesis, *Tetracyclines, Antibiotics.

Bilch, O., Molnar, I., and Wagner-Jauregg, Th.
THE ANTIPHLOGISTIC AND ANTIPYRETIC EFFECT OF ISOALLOXAZINE DERIVATES. [1961] 3p. (4 tables omitted) 8 refs.
Order from SLA $1.10 61-20576

Trans. of Helv[etica] Physio[logica et Pharmacologica Acta] (Switzerland) 1960, v. 18 [no. 1]p. C9-C12.

DESCRIPTORS: *Flavins, Pharmacology, Therapy, *Inflammation, Fevers, Toxicity, Dosage, *Alloxazines.

Casaglia, G. and Faggioli, A.
REMARKS ON THE CLINICAL USE, IN GYNECOLOGY, OF AN ANABOLIC STEROID RECENTLY SYNTHESIZED AND ACTIVE ON ORAL ADMINISTRATION. June 61, 10p. 23 refs.
Order from SLA $1.10 61-20915

Trans. of Monitore Ostetrico Ginecologico di Endocrinologia e del Metabolismo (Italy) 1960 [v. 31] n. s. v. 2 [no. 4, p. 432-445].

DESCRIPTORS: Pharmacology, *Steroids, *Testosterone, *Gynecology, Growth, Reproductive system, Hormones, Body weight, Proteins, Metabolism, Hydroxides, Methyl radicals.

A clinical study was made of the effects of a new synthetic anabolic steroid, active on oral administration (4-hydroxy-17 α-methyltestosterone), on weight increase and on the genital functions of weak patients. Special notice was made of modifications of body weight, of the menstrual cycle, and the reaction of the vaginal receptivity during prolonged treatment with

average doses, and secondary phenomena which materialized during the administration with high doses during a short period of time. There was observed a progressive and gradual weight increase, regulation of the menses, amelioration of the psychic condition and of cenesthesia. No alterations of the appetite or of the libido were noticed (Author)

Casaglia, G. and Gualandi, L.
THERAPY OF ACUTE PERIPHERAL CIRCULATORY INSUFFICIENCIES IN OBSTETRICS WITH HYPERTENSIN II (Sul Trattamento con Ipertensina II delle Insufficienze Acute Periferiche di Circolo in Ostetricia)[1961] [16]p. 23 refs.
Order from SLA $1.60 61-18868

Trans. of Quad[erni di] Clin[ica] Ostetric[a e] Ginecol[ogica] (Italy) 1960, v. 15, July, p. 475-487.

DESCRIPTORS: Therapy, *Traumatic shock, *Childbirth, *Hypertensin, Blood circulation, Blood volume.

During the administration of the drug, given intraveously drop by drop, the blood pressure and pulse rate were controlled repeatedly. The returning of the peripheral circulation to normal conditions was controlled with successive determinations of the minimum time of circulation. The Authors express a favorable opinion on the usage of Hypertensin, intravenously, for the correction of the acute peripheral circulatory insufficiency in obstetrics. (Author)

Dombrovskaya, A. M., Krementulo, V. A. and others.
EXPERIMENTAL RESEARCH ON THE PHARMACOLOGY OF GANGLION-BLOCKING AGENTS. [1961] [3]p.
Order from OTS or SLA $1.10 61-28832

Trans. of mono. Cong[ress of the] All-Union Soc[iety] of Physiol[ogists] Biochem[ists] and Pharmacol[ogists] (no. 9). [Summaries of Reports] v. 2, p. 105-106, Moscow/Minsk, 1959.

DESCRIPTORS: *Autonomic nervous system, *Acetylcholines, Drugs, *Ganglia, Nitrogen compounds, Therapy, *Hypertension, Toxicity, Cyclohexanes, Hexonium, Pharmacology.

Preparations of the hexonium series, hexamethylenebistrimethylammonium, possess the most highly active ganglion-blocking property and hypotensive action. The ganglion-blocking activity of hexonium derivatives is governed not only by the length of the chain between the quaternary nitrogen atoms, but also by the type and size of the groups attached to the nitrogens. Substituting ethyl or cyclohexenyl radicals for a methyl group attached to each quaternary nitrogen atom changes the preparation's ganglion-blocking activity and toxicity. (Author)

Duerker, W.
CHOLERETIC ACTION OF DEHYDROCHOLIC ACID ADMINISTERED ORALLY. [1961] 2p. 1 ref.
Order from SLA $1.10 61-16479

Trans. of Orientacion Medica (Argentina) 1961, v. 10, 17 Feb, p. 102.

DESCRIPTORS: *Digestive system, *Mouth, Veins, Medical equipment, *Gallbladder, Secretion, Surgery, Gallstones.

As a complement to the results published in issue number 40 of "Muencher Medizinische Wochenschrift", relating to the experiments undertaken with sodium dehydrocholate (Decholin injection), I would like to report here the favourable choleretic action of Decholin tablets in 4 of my patients. The cases selected were absolutely similar and corresponding to the cases treated with injections; the treatment followed was strictly parallel to the intravenous administration. Decholin injection (sodium dehydrocholate) is withdrawn with a syringe from the sterile vials and immediately injected in the cubital vein; while Decholin tablets (pure dehydrocholic acid, insoluble in water or acid media) are administered orally. The use of the tablets is thus limited, since they cannot be ingested immediately after the operation due to the likely presence of nausea. (Author)

Dumbovics, Boris.
HUNGARIAN CONFERENCE ON PHARMACOTHERAPY (NO. 1). 5 Dec 60 [6]p. JPRS: 4238.
Order from OTS or SLA $1.10 62-19186

Trans. of Magyar Tudomany (Hungary) 1960 [v. 5(67)] no. 8, p. 499-500.

DESCRIPTORS: *Conferences, *Pharmacology, Drugs, Hungary.

Eyme, Paul.
CLINICAL AND THERAPEUTIC RESULTS (Demethylchlortetracycline/Ledermycin (DMCTC). [1961] 5p. 6 refs.
Order from SLA $1.10 62-10263

Trans. of [die] Med[izinische] Welt (West Germany) 1960, no. 44, p. 2328-2329.

DESCRIPTORS: *Antibiotics, *Ledermycin, Tetracyclines, *Suppurative infections, Therapy, Effectiveness, Urinary tract, Respiratory system, Gallbladder, Toxicity.

DMCTC (Ledermycin) is the fourth of the tetracyclines and is a wide-spectrum antibiotic that differs, in a series of its characteristics, from the previously used tetracyclines. It forms one group with chlortetracycline. It can also be termed the stable and long-acting form of Aureomycin, with which it has in common a good antibiotic activity against gram-positive and gram-negative causes, Ledermycin differs from Aureomycin particularly by its long-term action. Clinical experience with DMCTC (Ledermycin) showed good results with 36 patients having infections of the

respiratory tract, of the gall bladder, and of the urinary passage, through doses of 600 mg a day. In 15 cases amounts of only 300 mg led to clinically good results. (Author) (See also 61-20572)

Flugel, F. and Bente, D.
CLINICAL ASPECTS OF THE ACTIONS OF PIPERAZINE PHENOTHIAZINE DERIVATIVES. [1961] 7p.
Order from SLA $1.10 62-10278

Trans. of French language mono. The Lyonnaise Revue of Medicine, spec. no. pub. by the Therapeutic Conference of German and French Psychiatrists [held at] Lyon, 21-22 Nov 59, p. 45.

DESCRIPTORS: Pharmacology, *Phenothiazine derivatives, Chlorpromazine, *Pyrazines, Therapy, Psychoses, Nervous system, Autonomic nervous system.

Hecht, G., Junkmann, K. and others.
PHARMACOLOGY OF 2-SULFANILAMIDO-5-METHOXYPYRIMIDINE. [1961] 18p. 14 refs.
Order from SLA $1.60 62-14096

Trans. of Arzneimittel-Forschung (West Germany) 1961, v. 11, Aug, p. 695-700.

DESCRIPTORS: Pharmacology, *Sulfonamides, Dosage, Therapy, *Alkoxy radicals, Pryimidines, *Excretion, *Toxicity.

The chemical and pharmacological properties of 2-sulfanilamido-5-methoxypyrimidine (sulfamethoxydiazine) are described. After oral administration the compound is well absorbed, excellently tolerated and, in human beings, acetylated only to a small extent. The slow decrease of the blood level classifies the compound as a long acting sulfonamide. (Author) (See also 62-14097)

Kharauzov, N. A. and Novikova, N. A.
THE EFFECTS OF SOME HYPOTENSIVE AND SPASMOLYTIC AGENTS UPON THE COURSE OF EXPERIMENTAL ATHEROSCLEROSIS. [1961] 1p.
Order from OTS or SLA $1.10 61-28716

Partial trans. (summary, p. 24-25) of mono. Sympozium po Probleme Ateroskleroze (Symposium on Atherosclerosis) [held at Leningrad] 1959.

DESCRIPTORS: *Arteriosclerosis, *Drugs, Kallikrein, Spasms, Inhibition, Cholesterol, Ascorbic acid, Adrenal glands, Pharmacology, *Hexonium

Kharkevich, D. A.
PHARMACOLOGY OF GANGLION-BLOCKING SUBSTANCES. [1961] [4]p.
Order from OTS or SLA $1.10 61-28833

Trans. from mono. Congress of the All-Union Society of Physiologists, Biochemists and Pharmacologists (no. 9). Extended Summaries of Reports at Symposia, v. 3, Moscow/Minsk, 1959.

DESCRIPTORS: Drugs, *Autonomic nervous system, *Ganglia, Adenosine phosphates, Nicotine, *Acetylcholines, *Inhibition, *Metabolism, *Phosphates, Carpaine, Pharmacology, Hexonium.

For nicotine, pachycarpine, tetraethylammonium and Pentamin the blocking effect is due to impairment of metabolism of the energy-rich phosphorus fractions (ATP, phosphocreatine). One cause for the changes in the ATP and creatine phosphate contents is the heightened adenosine triphosphatase activity. (Author)

Kienitz, M.
CLINICAL AND EXPERIMENTAL INVESTIGATIONS INTO THE USE OF DEMETHYLCHLORTETRACYCLIN IN PEDIATRICS. [1961] 10p. (5 figs. omitted) 14 refs.
Order from SLA $1.10 61-20566

Trans. of Med[izinische] Klin[ik] (West Germany) 1960, v. 55, p. 2064-2067.

DESCRIPTORS: *Antibiotics, *Ledermycin, *Tetracyclines, Pediatrics, *Dosage, Body weight, Toxicity

A report is made on experience with the new antibiotic of the tetracyclin group, demethylchlortetracyclin (DMCT), using blood level determinations from 40 infants and small children, as well as clinical observations on 74 infants, small children and school children. Determining blood-level figures, done mainly with infants, showed that with a daily dose of 15 mg DMCT per kg of body weight, given in 2 administrations, efficacy of the antibiotic is secured. Exceptions to this were only diarrhea cases, for the treatment of which the administration should be four times daily. The blood level is with DMCT higher than with oxytetracyclin, and is maintained longer than with other tetracyclins. In clinical testing, Ledermycin was an antibiotic convenient to apply, well tolerated, and measurable in exact doses in drop form: it can be used successfully with a high proportion of the patients treated. No secondary effects of any kind have been observed. (Author) (See also 62-10263)

Knott, Th., Kutzsche, A., and Walter, A. M.
ANTIBACTERIAL ACTIVITY OF 2-SULFANILAMIDO-5- METHOXYPYRIMIDINE. [1961] 29p. 26 refs.
Order from SLA $2.60 62-14097

Trans. of Arzneimittel-Forschung (West Germany) 1961, v. 11, Aug, p. 684-694.

DESCRIPTORS: Pharmacology, *Sulfonamides, Alkoxy radicals, *Pyrimidines, *Bacteria, Chemotherapeutic agents, Effectiveness.

The antibacterial activity of a new sulfonamide, 2-sulfanilamido-5- methoxypyrimidine (sulfamethoxydiazine) was assayed in vitro and in vivo in comparison with sulfadiazine and long-acting sulfonamides. In low concentrations sulfamethoxydiazine shows marked bacteriostatic effects in vitro; it is characterized by a competitive antagonism towards p-aminobenzoic acid. In Warburg experiments respiration and proliferation of bacteria are depressed depending on the concentration. The antibacterial spectrum corresponds to that

of other sulfonamides. In standard infections of white mice the test substances were different in their action on grampositive and gramnegative pathogens. Sulfadiazine, sulfamethoxydiazine, 3-sulfanilamido-6-methoxypyridazine, 2, 4-dimethoxy-6-sulfanilamido-1, 3-pyrimidine, and partly 2-sulfanilamido-5-methylpyrimidine are active against all bacteria, whereas 3-sulfanilamido-2-phenylpyrazole and 2-sulfanilamido-4, 5-dimethyloxazole show a narrower spectrum of activity. Sulfamethoxydiazine, followed by 3-sulfanilamido-6-methoxypyridazine; 2, 4-dimethoxy-6-sulfanilamido-1, 3-pyrimidine; sulfadiazine and 2-sulfanilamido-5-methylpyrimidine in low doses are superior to 3-sulfanilamido-2-phenylpyrazole and 2-sulfanilamido-4, 5-dimethyloxazole with regard to protracted action, i. e., duration and intensity of action. Even in minimal doses sulfamethoxydiazine was superior to all other sulfonamides with respect to blood levels and chemotherapeutic activity. (Author)

Kotev, G. and Rusev, G.
CONCERNING SOME CHANGES IN METABOLISM IN ACUTE AND CHRONIC INTOXICATION BY DIMETHYLAMIDOETHOXYPHOSPHORYLCYANIDE (TABUN). 20 May 60 [11]p. JPRS: 2637.
Order from OTS or SLA $1.60 60-11611

Trans. of Suvremenna Meditsina (Bulgaria) 1959, v. 10, no. 9/10, p. 46-53.

DESCRIPTORS: *Acetylcholines, Inhibition, *Metabolism, Poisoning, Anoxia, Cholinesterase, Drugs, *Phosphorus compounds, *Cyanides, Toxicity.

In acute and chronic intoxication of white rats with Tabun there is a considerable accumulation of acetylcholine in tissues. The greatest accumulation takes place in tissues of the cerebral cortex and medulla oblongata (from two and one-half to three times more than in the norm), and the least amount in the liver and kidneys. The pathological accumulation of acetylcholine under conditions of acute and chronic Tabun intoxication depends not only on the degree of inhibition of acetylcholinesterase in the organism but also on the activiation of cholinacetylase and the increase of coenzyme A, one of the major routes of acetylcholine synthesis in the organism. In acute and chronic Tabun intoxication cytochromoxidase is not only not blocked by the poison but its activity is also to a small degree increased simultaneously with the enhanced oxygen consumption by the poisoned tissues. The conditions of tissue respiration in Tabun intoxication represent the total effect of the phenomena of acute asphyxiation of the organism and abnormal accumulation of acetylcholine in it. The tissues of the poisoned organism appear to be unharmed and to retain completely their respiratory ability. (Author)

Muzlaeva, N. A.
ELECTROCARDIOGRAPHIC STUDY OF THE INJURED RAT HEART AFTER STIMULATION OF THE REGENERATION PROCESS WITH CERTAIN BIOLOGICALS (Elektrokardiograficheskoe Issledovanie Povrezhdennogo Serdtsa Krysy pri Stimulyatsii Regeneratsionnogo Protsessa Nekotorymi Biopreparatami). 3 Nov 61 [9]p. 17 refs. JPRS: 10842.
Order from OTS or SLA $1.10 62-13365

Trans. of Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya (USSR) 1961, v. 5, no. 4, p. 60-63.

DESCRIPTORS: *Electrocardiography, Diathermy, *Heart, Stimulation, *Drugs, Trypsin, Thyroid extract, Leukocytes, Serum, Vitamin B.

The use of a chest lead in addition to two standard leads in rats makes it possible to demonstrate more completely the electrocardiographic picture of the infarct-like surgical diathermic injury of the myocardium, particularly the appearance of the "coronary" T wave, which is not found in standard leads. The use of a skeletal musculature extract from rats in animals with an injured myocardium does not show any definite changes in the EKG compared with the control series of experiments. After the injection of thyroid extract into rats in which an injury to the myocardium had been produced by surgical diathermy, a stable and successive normalization of the EKG was observed in one out of four rats up to the 120th day after operation. Leukocyte serum caused a stable reduction in the amplitude of the main R wave only during its application in animals which had been operated on. Combined administration of trypsin and vitamin B_{12} in rats with an injured myocardium caused an increase in the size of the R wave by 1.5 to two times. Persistent normalization of the EKG was noted in almost all animals, beginning with the 14th-17th day after operation. (Author)

Neumayer, H.
PEDIATRIC EXPERIENCE WITH THE NEW BROAD-BAND ANTIBIOTIC DEMETHYLCHLORTETRACYCLIN (LEDERMYCIN). [1961] 6p. 15 refs.
Order from SLA $1.10 61-20572

Trans. of [die] Med[izinische] Welt (West Germany) 1961, no. 4, p. 195-197.

DESCRIPTORS: Antibiotics, *Ledermycin, Tetracyclines, Infants, Hospitals, Infections, Inhibition, Pneumonia, Suppurative infections, Effectiveness, Pediatrics.

A thorough testing of the new antibiotic Ledermycin (demethylchlortetracyclin), in addition to showing that it is tolerated well by sucklings and small children, it being used with 95 children, also showed a definitely more powerful effect as a result of the depot character of the antibiotic which is extraordinarily stable in the serum and tissue. We above everything observed the good success in treatment of what are often very obstinate and threatening infections of prematurely-born infants. Noteworthy also was the possibility cutting short beginning ward infections of healthy sucklings. (Author) (See also 61-20566)

Nosovitskaya, S. A.
CURRENT STATUS AND PROBLEMS ENCOUNTERED IN THE FIELD OF MANUFACTURING PREPARED DRUGS. 26 Jan 62 [15]p. 37 refs. JPRS: 12193.
Order from OTS or SLA $1.60 62-15663

Trans. of Meditsinskaya Promyshlennost' SSSR, 1961 [v. 15] no. 9, p. 17-20.
DESCRIPTORS: *Drugs, Packaging, Standards, Pharmacology, Manufacturing methods.

Paribok, V. P.
NARCOTICS AND CELL NARCOSIS IN CHEMOTHERAPY. Mar 62.
Order from CB $12.50

Trans. of mono. [Narkotiki i Kletochiya Narko i Khimiterapii, Moscow, 1961, 98p.].

DESCRIPTORS: *Narcotics, *Cells (Biology), Pathology, *Drugs, *Parasites, *Protozoa.

Pislaru, V.
EXPERIMENTAL DATA ON THE TOXICITY OF CEBETOX INSECTICIDE. 6 June 61 [7]p. JPRS: 4678.
Order from OTS or SLA $1.10 62-19408

Trans. of Igiena (Rumania) 1961, v. 10, no. 1, p. 27-30.

DESCRIPTORS: *Insecticides, Toxicity, Experimental data.

Cebetox, or dimethyl-ethyl-mercaptomethyl-thiophosphate ($C_5H_{13}O_3SP$), was found to be a powerfully toxic substance for mice, white rats, and guinea pigs. The minimum lethal toxic dose was from 0.6 to 0.7 milligrams per kilocorp. The maximum action showed itself 20 to 30 minutes after intraperitoneal injection, within which time the animal's death sets in probably through asphyxiation due to cholinesterase blocking, leading to the accumulation of acetylcholin, thus impeding the transmission of nervous impulses and producing paralysis of the bronchial muscles. Cebetox, after a given period of time from manufacture, becomes less toxic to animals. Cebetox surpasses in toxicity the substances Parathion (P-nitrophenyldiethylthionophosphate), Metacide (P-nitrophenyldimethylthionophosphate), Potasane (diethoxy-esteral-7-hydroxycumarin), Sistox (diethoxythiophosphoric acid, ester of 2-ethylmercaptoethanol), and Malathon (1,2-dicarboethoxyethyl-O, O-dimethylthionophosphate). Because of its high toxicity all precautionary measures for individual protection are to be observed during handling, sprinkling, or dusting with Cebetox.

Preziosi, P., Miele, E. and Marmo, E.
BEHAVIOR OF SOME HYPERTENSIVE RESPONSES IN DOGS TREATED SUBACUTELY WITH HYDROCHLOROTHIAZIDE (Comportamento di Alcune Risposte Ipertensive nel Cane Trattato in Maniera Subacuta con Idroclorotiazide). Oct 61, 5p. 8 refs.
Order from SLA $1.10 61-20778

Trans. of Soc[ieta] Ital[iana di] Biol[ogia] Sper[imentale]. Boll[ettina] 1961, v. 37, 15 Mar, p. 192-195

DESCRIPTORS: *Hypertension, Dogs, *Benzoyl radicals, *Thiazines, Diuretics, Pharmacology, Anoxia, Carotid sinus, *Vasomotor drugs, Infection, Autonomic nervous systems, Blood pressure, *Sulfonamides

In the dogs treated subacutely with hydrochlorothiazide, vascular reactivity is clearly influenced in that there is a marked reduction in the physiological vascular compensatory mechanism in response to O_2 insufficiency (response to the asphyxia), in the vasoconstricting effects due to stimulation of the adrenergic postganglionic fibers (responses to acetylcholine after atropine, to nicotine, to KCl), the vasoconstricting effects of adrenergic mediators injected i. v. (Author)

Puchkova, T. I.
THE STUDY OF THE IMMUNOGENIC PROPERTIES OF THE VACCINAL STOCK OF B. TULARENSIS IN THE PROCESS OF GROWTH AND MULTIPLICATION AT A TEMPERATURE OF 37° (Izuchenie Immunogennykh Svoistv Vaktsinnogo Shtamma B. Tularense v Protsesse Rosta i Razmnozheniya pri Temperature 37°). [1961] 4p.
Order from OTS or SLA $1.10 62-15001

Trans. of Gosudarstvennyi Nauchno-Issledovatel'skii Protivochumnyi Institut. Trudy (USSR) 1956, v. 10, p. 197-199.

DESCRIPTORS: Immunization, Tests, *Tularemia vaccine, Effectiveness, Culture media, Growth, Temperature, Mice.

Sprechler, M.
A NEW WATER-SOLUBLE HYDROCORTISONE PREPARATION FOR INTRAVENOUS APPLICATION, SOLVISAT LEO. [1962] 8p.
Order from ATS $10.65 ATS-48P59D

Trans. of Ugeskrift [für] Laeger (Denmark) 1957, v. 119, no. 31, p. 1003-1007.

DESCRIPTORS: *Adrenal cortical extract, *Drugs, Water, Solutions, Intravenous injections.

Supniewski, Janusz.
DRUG RESEARCH IN THE PHARMACOLOGY INSTITUTE. 10 Nov 61 [16]p. JPRS: 10997.
Order from OTS or SLA $1.60 62-19502

Partial trans. (some parts summarized) of Nauka Polska, 1961 [v. 9] no. 1(33) p. 133-145.

DESCRIPTORS: *Pharmacology, *Drugs, Synthesis.

Tripod, J., Neipp, L. and others.
EXPERIMENTAL RELATIONS BETWEEN THE CURATIVE ACTION AND BLOOD LEVELS OF SULFAMIDES, IN PARTICULAR SULFAPHENAZOL (Relations Experimentales Entre l'Action Curative et les taux Sanguins de Sulfamides, en Partculier du Sulfaphénazol). [1961] 17p. 17 refs.
Order from SLA $1.60 62-10337

Trans. of Antibiot[ica] et Chemother[apia] (Switzerland) 1960, v. 8, p. 17-31.

DESCRIPTORS: *Sulfamides, *Dosage, Therapy, Effectiveness, *Streptococcus infections, *Blood.

In the mouse infected by Streptococcus hemolyticus 38, the curative effect of different doses, single and repeated, during a 24 hour period of daily for 6 days, was determined for sulfaphenazol, sulfachlorpyridazine, sufasomidine and formo-sulfathiazol. Within certain limits, the intensity of the curative effects does not depend on the blood levels and is not proportional to them. Repeated doses improve the curative effect, but there are optimum intervals between them. The duration of the curative effect varies also according to the size and distribution of the total dose. Sulfaphenazol, as a derivative with prolonged action, develops an excellent curative effect with small doses and a blood concentrations which remain very weak whatever doses or posologies are used. Regardless of the posology, sulfasomidine and sulfachlorpyridazine have much higher blood concentrations for their curative effects. Despite its weak solubility, formosulfathiazol also has a marked curative effect with minimal blood levels far below those of sulfaphenazol. It is impossible to determine an "average" blood level for sulfamide therapy; each sulfamide must be separately judged according to its individual properties. (Author)

Tseng, Kuei-yun, Fu, Nai-wu, and Hsu, Lai-na.
STUDIES ON CHINESE HYPOTENSIVE MEDICINALS. I. CH'UAN-HSIUNG (LIGUSTICUM WALLISHII FR.) AND ITS SYNERGISM WITH RESERPINE. 19 Oct 61 [21]p. 4 refs. JPRS: 10625.
Order from OTS or SLA $2.60 62-13309

Trans. of Sheng Li Hsüeh Pao (Chinese People's Republic) 1960, v. 24, no. 2, p. 95-104.

DESCRIPTORS: *Vasomotor drugs, *Rauwolfia, *Hypertension, Adrenal cortical extract, Drugs, *Reserpine.

An infusion of the root of this plant was administered to hypertensive dogs and white rats. Renal hypertension had been induced in the animals by wrapping one kidney with silk mesh and removing the other kidney. Cortisone hypertension had been induced by removal of the suprarenal glands followed by daily injections of cortisone. When administered intravenously or intramuscularly this drug had a hypotensive action on anesthetized animals. Oral, intravenous, and intramuscular injections of the drug alone failed to produce sustained hypotnesive action. When given with reserpine this action became markedly effective.

Vikhlyaev, Yu. I. and Kaverina, N. V.
CHLORACIZIN. 26 Jan 62 [12]p. 6 refs. JPRS: 12187.
Order from OTS or SLA $1.60 62-15654

Trans. of Meditsinskaya Promyshlennost' SSSR, 1961 [v. 15] no. 9, p. 41-44.

DESCRIPTORS: Vasomotor drugs, Muscle relaxants, *Cardiac muscle Blood circulation, *Phenothiazine derivatives, *Drugs.

Chloracizin is a new spasmolytic agent. Chloracizin is the hydrochloride salt of 10-β-diethylaminopropionyl-2-chlorophenothiazine. Chloracizin belongs to the 10-dialkylaminoacyl derivatives of phenothiazine which, have considerable spasmolytic and cholinolytic properties. Chloracizin is especially active as an agent that improves blood supply to the heart.

Wirth, W., Gösswald, R. and others.
THE PHARMACOLOGY OF ACYLATED PHENOTHIAZINE DERIVATIVES, REPT. I. [1961] 28p. 24 refs.
Order from SLA $2.60 61-20520

Trans. of Archiv[es] Internat[ionales de] Pharmacodyn[amie et de Therapie] (Belgium) 1958, v. 115, p. 1-31.

DESCRIPTORS: *Pharmacology, *Phenothiazine derivatives, Chlorpromazine, Nervous system, *Acylation, Toxicity, Vasomotor drugs, autonomic nervous system.

The central effects are described of the 3-acetyl, 3-propionyl, and 3-butyryl compounds in which the dimethylaminopropyl, the methylpiperazinopropyl or the morpholinopropyl radical is bound to the nitrogen atom of the phenothiazine nucleus. For comparison, the non-acylated compounds of the same three groups i.e., altogether twelve compounds, as well as chlorpromazine, were investigated. (Author) (See also 61-20899)

Wirth, W., Gösswald, R., and Vater, W.
THE PHARMACOLOGY OF ACYLATED PHENOTHIAZINE DERIVATIVES, REPT. II. [1961] 32p. (6 figs. omitted) 41 refs.
Order from SLA $3.60 61-20899

Trans. of Archiv[es] Internat[ionales de] Pharmacodyn[amie et de Therapie] (Belgium) 1959, v. 123, p. 78-114.

DESCRIPTORS: *Pharmacology, *Phenothiazine derivatives, *Acylation, Blood pressure, Growth, Vasomotor drugs, Chlorpromazine, Autonomic nervous system, Metabolism.

In a previous paper (61-20520) the central actions of three groups of acylated phenothiazine compounds were described. In this paper the main peripheral effects, as well as more complete data on compatibility, are given. (Author)

Radiobiology

MEDICAL RADIOLOGY, 1961, NO. 5. 17 Nov 61 [175]p. refs. JPRS: 11077.
Order from OTS or SLA $12.50 62-13406

Trans. of Meditsinskaya Radiologiya (USSR) 1961 [v. 6] no. 5, p. 1-99.

DESCRIPTORS: *Radiobiology, *Education, Scientific personnel, *Medicine, Bibliography, Radiation effects, Bone, Tumors, Blood, Labeled substances, Metabolism Potassium, Sodium, Tissues (Biology), Thiols, Circulatory system, Radioprotective drugs.

Contents:

The teaching of radiology in medical institutes, by G. A. Zedgenidze and L. D. Lindenbraten

Experience in teaching roentgenology and radiology at the Moscow Medical Stomatological Institute, by I. A. Shekhter and A. S. Pavlov

Experience in the teaching of radiology at the First Leningrad Medical Institute imeni I. P. Pavlov, by D. G. Rokhlin

Experience in the teaching of radiology at the Odessa Medical Institute, by E. D. Dubovyi

Bibliography on problems of teaching medical radiology, by I. P. Lindenbraten

The use of telegammatherapy for malignant bone tumors, by Ya. F. Levin and A. P. Chernyavskaya

Gamma therapy of malignant tumors of the pharynx with radioactive cobalt, by E. P. Lebedeva

Hematologic indices in workers of X-ray and radiology departments, by E. D. Gol'dberg and others

New method of diagnosing disorders of potassium and sodium metabolism by the method of labeled atoms, by Z. M. Belova

Change in skin permeability under the influence of internal irradiation with radioactive sodium, by L. V. Zhidkova

The distribution of mercamine sulfur in the organs and tissues of irradiated and non-irradiated animals, by S. Ya. Arbuzov and others

Changes in the blood cells and hematopoietic organs from a whole body x-irradiation, by E. A. Pareyshvili and E. E. Pulatova

Some data on the combined effect of radiation and vibration on the bodies of animals (morphologic investigation) by A. N. Ganshina

Change in the blood coagulating system in acute radiation sickness, by N. Ya. Lagutina

Distribution of depth doses from a telegammatherapy apparatus containing Cs ^{137}, by M. A. Volkova and others

Some problems of dosimetry of betatron radiation, by D. K. Zavadovskii

"Ultrasoft X-rays in the treatment of inflammatory diseases of the eye", by N. A. Podkaminskii, Moscow 1959: book review by E. D. Dubovy

Conference devoted to a search for agents for the prophylaxis and treatment of radiation sickness, by E. N. Antipenko

At the Scientific Committee of Medical Radiology, by I. N. Ivanov

International Congress of Radiologists (no. 10).

MEDICAL RADIOLOGY, 1961, NO. 7. 6 Dec 61 [179]p. refs. JPRS: 11419.
Order from OTS or SLA $12.50 62-13658

Trans. of Meditsinskaya Radiologiya (USSR) 1961 [v. 6] no. 7, p. 3-98.

DESCRIPTORS: *Radiobiology, Gamma rays, Sarcoma, Heart, Cancer, Reproductive system Radioactive isotopes, Brain, Tumors, Radioprotective drugs, Bone, Ascorbic acid, Tuberculosis vaccine, Motor reactions, Nervous system, Testes, Circulatory system, Radiation hazards, Colloids, Gold, Glycines, Calcium compounds, Chlorides, Tissues (Biology), Electron microscopy, Vitamins, Leukocytes, Staphylococcus, Typhoid, Glucose, Phosphorus.

Contents:

Pathological changes in telegammatherapy of osteogenic sarcomas, by E. D. Savchenko and G. G. Mitrov

The method of intracavitary application of bulk radiation sources (Co^{60} macrosuspension) for carcinoma of the rectum, by Yu. Kh. Sarkisyan

The problem of functional myocardial changes in X-ray therapy of patients with cancer of the female genital organs and breast, by M. M. Nivinskaya and K. P. Buteiko

The concentration of radioactive iodine in brain tumors, by D. A. Ulitovskii

Antiradiation activity of new isothiuronium derivatives, by V. S. Shashkov and V. M. Fedoseev

The course of experimental osteomyelitis under conditions of radiation sickness, by V. A. Bashinskaya

Histochemical characterization of ascorbic acid in the eye in acute radiation sickness, by V. M. Abdullaev

The effect of ionizing radiation on the rules and regulations of the vaccine process in BCG immunization in experiments, by A. I. Togunova and M. F. Kulikova

Change in the motor activity of rabbits after irradiation, by N. A. Volokhova

The effect of ionizing radiation on the electrical activity of neurons at different levels of the rabbit cerebral cortex, by L. I. Kaburneeva

Changes in the chemical composition of the testicles after the effect of ionizing radiation, by A. M. Alekseeva and N. M. Timofeeva

The condition of the blood system in animals after injury with Po^{210}, by I. K. Petrovich

The main environmental factors and occupational hazards occurring at accelerators of singly and multiply charged ions, by L. V. Kuznetsova and N. N. Korshunova

Protective device for graduated intracavitary and interstitial injection of colloidal radiogold, by A. Ya. Berlovskii

Radiochemical method of determining glycine-C^{14} and $Ca^{45}Cl_2$ in a mixture in calcified tissues, by A. A. Prokhonchukov and Liu Ting-hsin

Thin light-sensitive layers for the purpose of obtaining autoradiographs of bacterial objects studied by means of the electron microscope, by I. V. Federova and V. I. Feoktistov

Protection against the braking radiation of radioactive isotopes, by Z. S. Aref'eva and others

The effect of vitamins on the course of injuries caused by ionizing radiation, by M. F. Nesterin

The leucocytic reaction and immunological indices in rabbits after the effect of X-ray, by T. G. Starkova and others

The effect of intradermal infection with the staphylococcus and typhoid microbes on the course of acute radiation sickness in guinea pigs, by G. A. Shal'nova

The effect of applications of P^{32} on the content of glucose and water in the blood and skin of rabbits by S. I. Matuskov

Dynamics of distribution of radioactive phosphorus in the body in the early stages of development of radiation sickness, by V. Ostashkov

Medical radiology: bibliography of foreign literature, by A. A. Kuznetsov

New medical journals.

Bianchi, C. and Zampieri, A.
ABOUT THE RENAL CLEARANCE OF RADIOHYPAQUE (Sulla Clearance Renale del Radiohypaque). [1961] 4p. 4 refs.
Order from SLA $1.10 62-10196

Trans. of Societá Italina di Biologia Sperimentale. Bollettino, 1961 [v. 37] no. 6, p. 260-262.

DESCRIPTORS: *Medical examination, *Kidneys, Physiology, *Labelled substances, *Thiosulfates, Benzoates, Sodium, Excretion, Blood proteins, Scintillation counters.

There is a significant correlation between the clearance of hypaque and the clearance of thiosulfate. The difference which exists between the mean values of the clearances of the 2 substances is probably due to the fraction of radiohypaque which circulates fixed to plasmatic proteins. The clearance of hypaque may therefore be assumed as a "way to estimate" the rhythm of the glomerular filtration. (Author)

Gorodets'kyi, O. O.
THE SERUM OF O. O. BOGOMOLETS IN THE PROPHYLAXIS AND THERAPY OF RADIATION SICKNESS. 26 Oct 61 [5]p. JPRS: 10645.
Order from OTS or SLA $1.10 62-13012

Trans. of Fiziologichnyi Zhurnal (USSR) 1961, v. 7, no. 3, p. 369-370.

DESCRIPTORS: *Radiation sickness, Countermeasures, Antibodies, Serum, Therapy.

The data from the literature and our own studies indicate that the antireticular cytotoxic serum of O. O. Bogomolets is a highly-effective means of stimulating the protective forces of the irradiated organism. (Author)

Grodzenskii, D. E.
NEW DATA ON THE EFFECT OF IONIZING RADIATION ON THE ENDOCRINE SYSTEM. 13 Nov 61 [17]p. 21 refs. JPRS: 10914.
Order from OTS or SLA $1.60 62-13415

Trans. of Problemy Endokrinologii i Gormonoterapii (USSR) 1961, v. 7, no. 4, p. 26-32.

DESCRIPTORS: *Radiation effects, *Endocrine glands, *Pituitary gland, *Adrenal glands, Hormones, Secretion, *Blood, Enzymes, Corticosteroids, Ascorbic acid.

During the early stages following irradiation there is a decrease in corticosterone content of the blood which flows out of the adrenals of rats. Within three hours after irradiation, the ACTH content in the adenohypophysis of rats is slightly reduced as compared to norm. Immediately after reduction and at other periods, up to 24 hours after irradiation, the ACTH activity in the peripheral blood is either sharply reduced or is not detected at all. The presence of an intact hypophysis in the organism is essential for the reaction of the adrenal to irradiation, manifested by a reduction in the concentration of ascorbic acid. During the first 24 hours following irradiation there is retention of sodium and an increased excretion of potassium. The Na/K coefficient is reduced. The combined effect of irradiation and desoxycorticosterone-acetate (DOCA) on the excretion of electrolytes led to the lowest Na/K coefficient. The corticosteroidogenesis impairments following ionizing radiation may be connected with changes in the course of intimate biochemical processes in the adrenal tissue.

Romanov, Yu. A.
CERTAIN DATA ON THE BIOLOGICAL EFFECT OF THERAPEUTIC DOSES OF RADIOACTIVE IODINE UPON AN ORGANISM UNDER EXPERIMENTAL CONDITIONS. 17 Nov 61 [19]p. 21 refs. JPRS: 11109.
Order from OTS or SLA $1.60 62-13443

Trans. of Problemy Endokrinologii i Gormonoterapii (USSR) 1961, v. 7, no. 3, p. 22-31.

DESCRIPTORS: *Radioactive isotopes, *Iodine, Radiation damage, *Thyroid gland, *Diagnosis.

I^{131} doses of 160-165 mc, equivalent to maximum therapeutic doses, are highly harmful to two-months old Chinchilla rabbits and inhibit the regenerative processes in the thyroid. In some cases these doses cause hypothyreosis. Between the 30th and 90th day a marked reduction of the thyroid weight was observed in animals which had received I^{131} This was observed during the period when, according to the data in the literature, the thyroid becomes virtually free of I^{131}. The clinically known state of temporary hyperthyreosis takes place during the first few weeks following I^{131} administration. Toward the end of the first month, following administration of 160-165 mc of I^{131} to animals, a hyperchromic anemia developed, the appearance of which can be connected with the increased thyroid function. The condition of reticulocytes at this stage attested to a certain inhibition of erythropoiesis. Starting with the 30th day, the quantity of erythrocytes and reticulocytes gradually reverted to norm. No deviations from norm were observed in the Hb content. (Author)

Shabadash, A. L.
IMPORTANCE OF THE HISTOCHEMICAL CHARACTERISTICS OF ISOELECTRIC POINTS OF THE NUCLEOPROTEINS OF CELL CYTOPLASM OF AN ANIMAL ORGANISM FOR THE THEORY OF RADIOBIOLOGICAL REACTIVITY (Znachenie Gistokhimicheskikh Osobennostei Izoelektricheskikh Tochek Nukleoproteidov Tsitoplazmy Kletok Zhivotnogo Organizma dlya Teorii Radiobiologicheskoi Reaktivnosti). 27 Oct 61, 26p. 43 refs. Trans. A-1303.
Order from OTS or SLA $2.60 62-13456

Trans. of mono. Fiziko-Khimicheskie i Strukturne Osnovy Biologicheskikh Yavlenii, Moscow, 1960, p. 154-168.

DESCRIPTORS: Histology, *Radiation effects, *Cells (Biology), *Nucleoproteins, Nucleic acids, Radiobiology, Cytochemistry.

Three categories of ribonucleoproteins (RNP), which differ as to their physicochemical characteristics, were isolated by determining the isoelectric point of the tissue colloids in a momentary bioptic disconnection of the enzymes of a specific splitting in the cell. Each of these RNP has special ratios of dissociated groups of phosphoric acid, nitrous bases, and different degrees of protein complexity. Ionizing radiation changes the physiochemical characteristics of RNP in the different components of the cell, and determines the reactive changes occuring in cellular structure containing nucleoproteins. The depolymerization of RNP in the mitochondria of the cells causes swelling, and agglutination of the mitochondria, disarrangement of the physiochemical properties of the protein structural shell, and disorganization of the enzymes concentrated within the mitochondria. These factors determine the progressive deterioration of the cell as a whole. Cell vulnerability to penetrating radiation is correlated with the physiochemical and functional characteristics of the nucleoproteins, and with cytoplasmic structures.

Toroptsev, I. V., Gol'dberg, E. D. and others.
PROBLEMS OF ESOPHAGEAL AND GASTRIC SURGERY: THE BIOLOGICAL EFFECT OF 25 MEV BETATRON RAYS [SELECTED ARTICLES]. 23 Oct 61 [53]p. JPRS: 10673.
Order from OTS or SLA $5.60 62-13263

Trans. of mono. Voprosy Khirurgii Pishchevoda i Zheludka; Biologicheskoe Deistvie Luchei Betatrona 25 Mev, Tomsk, 1960, p. 485-535.

DESCRIPTORS: *Betatrons, Electrons, *Radiation sickness, *Blood, Pathology, Vitamin B, Metabolism, *Lymphatic system, Ascorbic acid, *Gamma rays, Excretion, *Liver, Therapy, Sarcoma, *Radiation tolerance, Cancer, Bile.

Contents:
Some results of work of the Betatron Laboratory at the Tomsk Medical Institute, by I. V. Toroptsev
Hematologic changes in guinea pigs with the acute forms of radiation sickness caused by the 25 Mev Betatron, by E. D. Gol'dberg
The mechanism of action of Betatron rays with an energy of 25 mev on the vitamin B_{12} metabolism in the body, by G. D. Berdyshev
The reaction of the peripheral blood after experimental irradiation of the pharyngeal lmyphoid tissue with a 25 Mev Betatron, by A. V. Borozdina
Disturbance of vitamin C deposition in guinea pigs after irradiation of them with gamma-rays of a 25 Mev Betatron, by A. A. Kovalevskii and others
The excretion of bile after local irradiation of the liver with a 25 Mev Betatron, by T. I. Tsekhanovich
Some biochemical indices obtained in persons working with the Betatron and patients irradiated with Betatron Rays for treatment purposes, by I. D. Kolomina
Observations on treatment of a sarcoma in a dog with 25 Mev Betatron Rays, by V. S. Marchenko
First experience in the utilization of the Betatron for the treatment of malignant tumors, by K. N. Zivert.

Tupikova, T. M.
THE INFLUENCE OF EXPERIMENTAL HYPOXIA ON THE PERMEABILITY OF CERTAIN BIOLOGICAL BARRIERS OF THE BODY TO RADIOACTIVE PHOSPHORUS (Vliyanie Eksperimental'noi Gipoksii na Pronitsaemost' Nekotorykh Biologicheskikh Bar'erov Organizma po Otnosheniyu k Radioaktivnomu Fosforu). 3 Nov 61 [8]p. 13 refs. JPRS: 10839.
Order from OTS or SLA $1.10 62-13366

Trans. of Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya (USSR) 1961, v. 5, no. 4, p. 39-43.

DESCRIPTORS: *Anoxia, Absorption, *Labeled substances, Brain, Hypothalamus, *Body fluids, *Nervous system, Membranes, Permeability.

Radioactive phosphorus injected parenterally into the body of an intact rabbit is taken up unequally by various parts of the brain. Most of it is present in the hypothalamic region; less, in the tissues of the corpora quadrigemina and cerebral cortex, and least, in the thalamus. Radioactive phosphorus penetrates into the spinal fluid and aqueous humor of the eye in a minimal quantity; maximally, into the blood serum. In the case of hypoxia in rabbits there is an increase in the content of radioactive phosphorus in the spinal fluid and various parts of the brain by 1.2 to 4 times; in the aqueous humor of the eye, by 1.5 to 2.5 times, which is evidence of a disturbance in the function of the hemato-encephalic and hemato-ophthalmic barriers. Of the parts of the brain, radioactive phosphorus is taken up to the greatest degree by tissue in the region of the hypothalamus and corpora quadrigemina. The greatest increase in permeability of biological membranes is found in the case of hypoxia caused by protracted asphyxia; less, with intoxication caused by sodium nitrite and repeated small hemorrhages. (Author)

Surgery

CLINICAL AND SURGICAL PRACTICES. 6 Dec 61 [48]p. 44 refs. JPRS: 11351.
Order from OTS or SLA $4.60 62-13677

Trans. of Vestnik Khirurgiya (USSR) 1961, v. 87, no. 8, p. 18-26, 53-59, 71-75, 79-85.

DESCRIPTORS: Diagnosis, *Surgery, Diseases, Therapy, *Burns, Chemicals, *Polymer solutions, *Bone, *Transplantation, Abdomen, *Plasma substitutes.

Contents:
Diagnostic value of the reaction to C-reactive protein in certain surgical diseases, by S. E. Tukachinskii and others
The study of C-reactive protein in acute surgical diseases of the abdominal cavity, by A. I. Goshkina and E. V. Kolesov

The pathogenesis and treatment of chemical burns, by V. Ya. Zolotarevskii and R. A. Pereverzeva
The use of bone homotransplants in surgical practice, by G. A. El'berg and N. I. Grigor'ev
Certain data on the clinical effectiveness of polyvinal, by E. A. Senchilo and N. V. Petrov
Experience in the use of a blood-substituting polyvinal solution in the surgical clinic, by B. M. Gershman.

PLASTIC SURGERY, COMMISSUROTOMY, AND SHOCK: SELECTED ARTICLES. 21 Dec 61 [54]p. 79 refs. JPRS: 11624.
Order from OTS or SLA $5.60 62-13861

Trans. of Khirurgiya (USSR) 1961 [v. 37] no. 8, p. 28-30, 64-71, 75-79, 87-93, 121-130.

DESCRIPTORS: *Heart, *Surgery, Measurement, Oxygen, Hemoglobin, *Skin, *Transplantation, *Bone, Preservation, Anesthesia, Trauma shock.

Contents:
Oxihemometry in mitral commissurotomy, by Yu. Ya Agapov
Modern free skin grafting and its place in the treatment of surgical patients, by T. Ya. Ar'ev
Plastic repairs with cadaver skin in children, by V. N. Sememov
The use of alloplasty of soft tissues in infected wounds, by A. A. Ol'shanetskii and A. Yu. Svidler
The clinical use of bone homotransplants preserved under refrigeration, by N. A. Zvonkov
Controversial problems connected with anesthesia and shock, by P. K. D'yachenko.

Bogomolova, L. G., Andrianova, I. G., and Aleksandrova, N. M.
A NEW PREPARATION, BIOPLASTIC, AND ITS PURPOSE (Novyi Preparat Bioplastic i Ego Naznachenie). 26 Sep 61, 6p. 13 refs. JPRS: 10219.
Order from OTS $0.50 61-31617

Trans. of Khirurgiya (USSR) 1961 [v. 37] no. 6, p. 125-128.

DESCRIPTORS: *Surgery, *Plastic surgery, *Hemorrhage, Inhibition, Gelatins, Toxicity, Absorption, Drugs, Inflammation.

Bioplastic is produced by the Institute of Blood Transfusion in sizes of 5 x 4 x 1.5 cm in sterile packing. If the sterility is impaired, the preparation can be sterilized with dry heat in a drying chamber at 140° for one hour. The preparation is recommended for the following uses: (1) as a hemostatic (following impregnation with thrombin) in various diffuse and parenchymatous hemorrhages; (2) in filling out post operative cavities; (3) for introduction into wounds for the purpose of antimicrobial effect or anesthesia.

Golyakhovskii, V. Yu.
MODIFICATION OF THE TENOSUSPENSION OPERATION FOR HABITUAL DISLOCATION OF THE SHOULDER (Modifikatsiya Operatsii Tenosuspenzii pri Privychnom Vyvikhe Plecha). 26 Oct 61 [8]p. JPRS: 10756.
Order from OTS or SLA $1.10 62-13244

Trans. of Eksperimental'naya Khirurgiya i Anesteziologiya (USSR) 1961, v. 6, no. 3, p. 48-51.

DESCRIPTORS: *Surgery, *Shoulder, *Dislocations, Tendons, *Transplantation, Muscles, Tissues (Biology).

The operation of tenosuspension of the shoulder proposed in the 1930's by M. O. Fridland for the treatment of patients with habitual dislocation of the shoulder gives satisfactory treatment results. However, the need for an additional incision tor the purpose of taking an autograft from the fascia lata of the thigh and the arrangement of the pedicles of this transplant over the tendinous portion of the subscapularis muscle constitute negative factors in this operation. A double layer of strips of capron mesh No 76 is stronger than fascial strips of the same size. The modification of M. O. Fridland's shoulder tenosuspension operation, in which a capron allograft is used in place of a fascial autograft and where the former is passed under the tendinous portion of the subscapularis muscle gives entirely satisfactory treatment results and may be recommended to surgeons at large. (Author)

Los', G. F.
THE PROBLEM OF ESOPHAGEAL ALLOPLASTY (K Voprosu ob Alloplastike Pishchevoda). 26 Oct 61 [9]p. JPRS: 10753.
Order from OTS or SLA $1.10 62-13226

Trans. of Zdravookhranenie Belorussii (USSR) 1961, v. 7, no. 7, p. 25-27.

DESCRIPTORS: *Plastic tubing, *Surgery, *Esophagus, Prosthetics.

A method is suggested for constructing an esophageal prosthesis, which ensures the incorporation of the prosthesis into the adjacent tissues, and eliminates sloughing of the prosthesis and narrowing of the newly-formed esophagus by cicatrization. Granulation tissue and fibrous structures grow between the adjacent tissues around the prosthesis and the homograft through the openings in the tube. The plastic prosthesis, which is fastened between them, cannot be sloughed.

Revskaya, A. K.
THE IMMUNOLOGICAL BASIS FOR HETEROPLASTICS OF EMBRYONIC BLOOD VESSELS (K Immunologicheskomy Obosnovaniyu Geteroplastiki Sosudov Embriona). 27 Oct 61 [4]p. 6 refs. JPRS: 10748.
Order from OTS or SLA $1.10 62-13245

Trans. of Eksperimental'naya Khirurgiya i Anesteziologiya (USSR) 1961 [v. 6] no. 4, p. 52-53.

DESCRIPTORS: *Transplanation, *Arteries, *Embryos, Cattle, Antigens, Tissues (Biology), Blood vessels, Dogs

Heterotransplants of the arterial trunk's of cow's embryos possess less pronounced antigenic properties than transplants from adult species. Further study is indicated of the employment of vascular embryonal hetero-tissue, since it points to one of the possible ways of combating tissue incompatibility. (Author)

Szendi, Balazs.
CONTROL OF DIFFICULTIES OF PERITONIZATION BY OMENTAL OR AMNIONIC TRANSPLANATION: OMENTAL AND AMNIONIC TRANSPLANTATION IN ORDER TO OVERCOME THE DIFFICULTIES OF PERITONIZATION. [1961] [15]p. 22 refs.
Order from SLA $1.60 61-20005

Trans. of Magyar Nöorvosok Lapja (Hungary) 1954, v. 17, no. 1, p. 48-55.

DESCRIPTORS: Gynecology, *Peritoneum, *Omentum, Injury, *Transplantation, Surgical trauma, Peritonitis, Inhibition.

Vishnevskii, A. A., Darbinyan, T. M. and others.
ISOLATED DEEP HYPOTHERMIA OF THE HEART AS A METHOD OF ARTIFICIAL CARDIOPLEGIA: EXPERIMENTAL SUBSTANTIATION AND CLINICAL APPLICATION (Izolirovannaya Glubokaya Gipotermia Serdtsa kak Metod Iskusstvennoi Kardioplegii).
26 Oct 61 [17]p. 16 refs. JPRS: 10754.
Order from OTS or SLA $1.60 62-13225

Trans. of Eksperimental'naya Khirurgiya i Anesteziologiya (USSR) 1961, v. 6, no. 3, p. 3-12.

DESCRIPTORS: *Hypothermia, Heart, *Heart arrest, *Cardiac muscles, Anoxia, *Surgery.

The method which we developed for isolated deep hypothermia of the heart (10-8°) produced by perfusion of the coronary arteries with A. V. Vishnevskiy's solution chilled to 0-2° is an effective agent for cardio plegia in operations on the "dry" heart with the utilization of an extracorporeal circulation apparatus. Cold arrest of the heart occurs much sooner and at a higher temperature than deep hypothermia of the heart. Therefore, cold arrest, when the cardiac temperature reaches only 23-22° cannot be considered an effective protection against prolonged myocardial anoxia With the creation of deep hypothermia of the heart and particularly with the recovery of cardiac activity it is essential to consider drainage of the left ventricle expedient. Cardioplegia produced by deep hypothermia of the heart excludes defects in the methods of forced cardiac arrest by chemical substances and at the same time is more expedient than controlled hypoxic bradycardia or asystole. (Author)

Zoology

ACTA ENTOMOLOGICA SINICA, 1959, VOL. 9, NO. 2: SELECTED ARTICLES. 30 Nov 61 [61]p. 39 refs. JPRS: 11363.
Order from OTS or SLA $6.60 62-13862

Trans. of K'un Ch'ung Hsüeh Pao (Chinese People's Republic) 1959, vol. 9, no. 2, p. 149-151, 161-164, 166-173, 176-182, 190-200.

DESCRIPTORS: *Insects, *Classification, Anatomy, Physiology, Ecology, *Midges, *Mites, *Mosquitoes, Hibernation, Reproduction.

Contents:
Notes on four species of midges of the genus Culoicoids collected on Hainan Island (order Diptera, family Heleidai) by Ch'u Feng-i
Two new murine species of trombiculid mites from Kwangtung province, by Liang Pai-ling
Studies on the blood preference of culicine mosquitoes found indoors in the P'u Chen area of Nanking, by Li Ch'in-pai
Morphology of the nymph and adult of the mite, Neoschongastia Gallinarum Hatori, 1921 (Acariformes, Trombiculidae) studies on Tsutsugamushi, par xx, by Ch'iu Ming-Hua
Preliminary observations on the hibernation of the mosquito Culex Pipiens Pallens in Tsinan, by T'eng Pin
Three newly discovered species of mosquitoes in northeast China, by Ch'in Yao-t'ing.

Andriyashev, A. P.
FAMILIES OF FISHES NEW TO THE ANTARCTIC. I. PARADIPLOSPINUS ANTARCTICUS, GEN. ET. SP. N. (PISCES, TRICHIURIDAE) tr. by Wilvan G. Van Campen. July 61 [9]p. 10 refs.
Order from OTS or SLA $1.10 61-28763

Trans. of Zoologicheskii Zhurnal (USSR) 1960, v. 39, no. 2, p. 244-249.

DESCRIPTORS: *Fishes, *Antarctic regions, Classification, Anatomy.

A description of the new genus and species of Trichiurid fish is presented based on specimens taken by the Isaacs-Kidd midwater trawl from off the Wilkes Land, near the Peter I Isle, and in the Drake Strait. Paradiplospinus is closer to Diplospinus multistriatus Maul but differs in the simple (not barbed) teeth on jaws, in the absence of ventral fins, in a greater number of vertebrae (65 - 66), in the peculiar slit-like incision on the outer border of the interorbital space, and oth. A number of characteristics permit Paradiplospinus antarcticus to be considered as the most primitive representative of the subfamily Aphanodopinae closely related to the Gempilid-like type.

Bokser, B.
THE WEALTH AND THE NEEDS OF THE ARAL SEA (Bogatstva i Nuzhdy Arala). 6 Nov 61, 16p.
Trans. V-1741.
Order from OTS or SLA $1.60 62-13508

Trans. of Narodnoe Khozyaistvo Uzbekistana (USSR) 1961, v. 3, no. 4, p. 92-96.

DESCRIPTORS: *Aral Sea, *Fishes, Abundance, Ecology, Reproduction, Preservation, Transportation, Refrigeration systems.

Krylova, K. T., Varshavskii, S. N. and others.
THE CHARACTERISTICS OF INTERSPECIES CONTACT IN THE ECESIS OF THE GREATER GERBILS IN THE AREA NORTH OF THE ARAL SEA.
17 Nov 61 [39]p. 7 refs. JPRS: 11090.
Order from OTS or SLA $3.60 62-13535

Trans. of Zoologicheskii Zhurnal (USSR) 1961, v. 40, no. 3, p. 434-446.

DESCRIPTORS: *Rodents, *Ecology, Mammals, Fleas, Animals, Abundance, Plague, Sources, Parasites, *Disease carriers.

Orlov, O. Yu.
A COLORIMETRIC INVESTIGATION OF SIGHT IN CEPHALOPODA. 29 Dec 61 [8]p. 15 refs. JPRS: 11737.
Order from OTS or SLA $1.10 62-15363

Trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 139, no. 3, p, 723-725.

DESCRIPTORS: *Color vision, *Vision, *Squids, Mollusca, Eye, Visual perception, Eye pigments.

Experiments demonstrated that neither the squid (Ommastrephes sloani-pacificus) nor the octopus (Octopus dofleini) have color vision. Colorimetric experiments demonstrated that by selection of the intensity, color beams of any spectral composition can be made undifferentiable for the squid and octopi. The substitution of one stimulus for another causes no eye reactions. Such stimuli are visually equal. This indicates that squid and octopi do not differentiate color by its spectral composition, i.e., that they do not have color vision. The spectral sensitivity curves for the squid and the octopus are practically identical; their maximums are located at about 485 microns. Such spectral characteristics are close to the absorption spectrum of rodopsine isolated from the retinas of other Cephalopoda and, undoubtedly, depend on the presence of an analogous pigment.

Pavlovskii, E. N., ed.
HANDBOOK OF SOVIET ZOOLOGISTS. 27 Mar 62 [445]p. JPRS: 13188.
Order from OTS or SLA $22.25 62-23801

Trans. of mono. Zoologi Sovetskogo Soyuza-Spravochnik, Moscow/Leningrad, 1961, p. 1-277.

DESCRIPTORS: *Biology, *Scientific personnel, *Directories, Personnel

The Handbook contains information concerning a total of 2800 zoologists.

CHEMISTRY

ACTIVITIES OF THE INSTITUTE OF CHEMICAL SCIENCES, THE ACADEMY OF SCIENCES, KAZAKH SSR, 1960, NO. 2(18): SELECTED ARTICLES.
5 Oct 61 [152]p. JPRS: 10311.
Order from OTS or SLA $11.50 61-28741

Trans. of Akademiya Nauk Kazakhskoi SSR [Alma Ata]. Izvestiya. Seriya Khimicheskaya, 1960 [v. 5] no. 2(18), p. 5-69 and 112-113.

DESCRIPTORS: *Phosphates, *Minerals, Solutions, Analysis, *Metals, *Rare earth elements, Electrochemistry, *Petroleum, Chemistry, Synthesis, *Polymers.

Contents:
Foreward
Physicochemical and technological research on phosphorites and the natural salts of kazakhstan, by A. B. Bekturov and others
Research in the field of the nature of solutions and physicochemical analysis, by T. N. Sumarokova
Work in the field of the electrochemistry of nonferrous and rare metals, by V. V. Stender and others
Research in the field of petrochemical synthesis and the chemistry of polymers, by S. R. Rafikov and others
Research in the field of the chemistry of natural compounds, by M. I. Goryaev
Dmitrii Vladimirovich Sokol'skii (on his fiftieth birthday) by M. I. Usanovich.

ACTIVITIES OF THE DIVISION OF CHEMISTRY OF THE HUNGARIAN ACADEMY OF SCIENCES.
28 Jan 61 [43]p. 3 refs. JPRS: 6652.
Order from OTS or SLA $4.60 62-19191

Trans. of Magyar Tudomanyos Akademia Kemiai Tudomanyok Osztalyanak Kozlemenyei (Hungary) 1960, v. 14, no. 4, p. 431-468.

DESCRIPTORS: *Chemistry, Universities, Scientific research, Industrial research, *Physical chemistry.

Contents:
Report on study tour of Hungarian chemist to Chinese chemical research institutes, by Pal Fejes
Achievements and tasks of the University of Chemistry in Veszprem in developing Hungarian science and industry, by Karoly Polinszky
Report of the physical-chemical committee's work in 1959.

AIR PURIFICATION IN CONFINED AREAS. 13 Dec 61, 2p. AID rept. 61-164. AD-269 788
Order from OTS or SLA $1.10 62-15412

Review of #Zhurnal Neorganicheskoi Khimii (USSR) 1961, v. 6, no. 10, p. 2225-2236 and no. 11, p. 2470-2480.

DESCRIPTORS: *Air, *Purification, Alkali metal compounds, Sodium compounds, Peroxides, Potassium compounds, Oxides, Synthesis, Carbon dioxide, Carbon compounds, Monoxides, Hydrates, Chemical reactions.

Contents:
The synthesis of pure sodium peroxide and potassium superoxide, by A. Kh. Mel'nikov and others
The interaction of sodium superoxide with carbon dioxide in the presence of water vapor, by A. Kh. Mel'nikov and T. P. Firsova
The interaction of sodium peroxide octahydrate with carbon dioxide, by A. Kh. Mel'nikov and T. P. Firsova
The interaction of carbon monoxide with superoxides of sodium or potassium, by A. B. Tsentsiper and S. A. Tokareva.

BIOGRAPHIC INFORMATION ON HUNGARIAN CHEMISTS. 17 May 61 [6]p. JPRS: 8270.
Order from OTS or SLA $1.10 62-19216

Trans. of Magyar Kémikusok Lapja (Hungary) 1961, v. 16, no. 1, p. 46-47.

DESCRIPTORS: *Chemistry, Chemical industry, Chemical engineering, *Professional personnel.

The title here is somewhat misleading. Names of speakers are given, and their topics are noted (or sometimes titles of their papers are given), who presented papers at the First Analytical Enquete of Chemists of the County of Baranya on September 24, 1960. It is also announced that the Vince Wartha commerative medal was awarded in 1959 to Dr Zoltan Foldi and to Rezso Konig, and the Karoly Than commerative medal was awarded to Gabor Szekeres, editor of the Journal of Hungarian Chemists. There is no biographical information concerning any of the men whose names are given.

DEVELOPMENT AND ACHIEVEMENTS IN THE CHEMICAL SCIENCES. 13 Jan 61 [72]p. 9 refs. JPRS: 6579.
Order from OTS or SLA $7.60 62-19195

Trans. of Magyar Tudomanyos Akademia Kemiai Tudomanyok Osztalyanak Kozlemenyei (Hungary) 1960, v. 14, no. 2, p. 177-189, 191-199, 201-208, 213-231, 239-241, 243-244.

DESCRIPTORS: *Chemistry, Physical chemistry, Pharmacology, Organic compounds, Inorganic substances, *Chemical engineering, Petroleum, Coal, Chemical industry, Chemical analysis, Industrial research, Radioactivity, Microanalysis.

Contents:
Development of physical chemistry and results obtained since the liberation, by Geza Schay
The ten-year development of the pharmaceutical sciences, by Elemer Schulek
Development and current status of organic chemical research, by Gyozo Bruckner
Development of inorganic chemical engineering after the liberation, by Mor Korach
Scientific and industrial development in petroleum and coal processing, by Mihaly Freund
Status and development trends in analytical chemistry, by Laszlo Erdey
Outstanding achievements in analytical chemical research over the past decade, by Anna Schneer
Industry and analysis, by Imre Krausz
Achievements in radioactive coal analysis and possible applications in organic microanalysis, by Sandor Milinko.

PROGRESS OF CHEMISTRY, 1944, VOL. 13, NO. 4: [TABLE OF CONTENTS AND SELECTED ABSTRACTS]. [1961] 2p.
Order from OTS or SLA $1.10 62-10822

[Abstract] trans. of Uspekhi Khimii (USSR) 1944, v. 13, no. 4, p. 253-264 and 328-335.

DESCRIPTORS: *Chemistry, Abstracting, Scientific personnel.

Contents:
Sergei Vasil'evich Lebedev, by A. E. Arbuzov
The part played by Russian scientists in the creation of world chemistry, by I. I. Zaslavskii.

TEN YEARS WORK OF THE ORGANIC CHEMICAL INDUSTRY AND PLASTIC INDUSTRY IN HUNGARY. 31 July 61 [83]p. JPRS: 9708.
Order from OTS or SLA $8.10 62-19541

Trans. of Magyar Tudomanyos Akademia Kemiai Tudomanyok Osztalyanak Kozlemenyei (Hungary) 1960, v. 14, no. 3, p. 277-342.

DESCRIPTORS: *Chemical industry, Chemistry, *Organic compounds, *Plastics industry, Chemical engineering, Phosphoric acids, Polymerization, Synthesis, Vinyl chlorides, Vinyl radicals, Acetates, Acetylenes, Gases, Mixtures, Furan, Plastic pumps, Chemical analysis, Ethylenes, Polymers, Dyes, Esters, Resins, Ion exchange resins, Porosity, Color film, Production, X-rays, Laboratory equipment.

Contents:
Ten years development of the Institute, by Karoly Tettamanti
A pilot plant for caprolactam, by Kalman Matolcsy
The phosphoric acid polymerization of ω-amino-caprolactame, by Frigyes Geleji
Some problems on the synthesis of vinyl chloride and vinyl acetate from low acetylene content gas mixtures, by Gyorgy Thurzo
On the domestic (hungarian) furan research, by Ferenc Kallay

The construction of a plastics pump, by Bela Zinca and Janos Keresztes
Instrumental methods in organic chemical analysis, by Laszlo Markus
On our results on polyethylene research, by Artur Simon
On the dye research, by Istvan Back
The structure and properties of polyester contact resins, by Ibolya Vanoso Szmercsanyi
Dielectrometry in organic chemical industry research by Sandor B. Nagy
Porous and dipolar ion-exchange resins, by Janos Mikes
Distribution of the dispersion degree of vat dyes, by Andor Lorinc
The industrial utilization of ketene, by Imre Wurdits
Some problems of radiation polymerization, by Janos Dobo and Gyula Hardy
The production of colored-film dye compounds, by Ferenc Nyiri
Report on the activities of the X-ray laboratory, by Geza Bodor.

Allaberdyev, Yu.
ALL-UNION CONFERENCE ON PHYSICOCHEMICAL ANALYSIS (NO. 4) 27 Oct 61 [4]p. JPRS: 10714
Order from OTS or SLA $1.10 62-13219

Trans. of Akademiya Nauk Turkmenskoi SSR [Ashkhabad]. Izvestiya. Seriya Fiziko-Tekhnicheskikh, Khimicheskikh i Geologicheskikh Nauk, 1961, no. 2, p. 127.

DESCRIPTORS: Conferences, *Physical chemistry, Analysis, Scientific reports.

Fujitani, Yoshiyasu.
CONDENSATION OF AMMONIUM CHLORIDE SMOKE BY AGING, I. [1961] 11p. (11 figs. omitted) 8 refs.
Order from SLA $1.60 62-10751

Trans. of [Nihon Kagaku Zasshi] (Japan) 1952, v. 73, p. 418-423.

DESCRIPTORS: *Aerosols, *Condensation, Particles, Sedimentation, Distribution, Mass number, Sizing, *Ammonium radicals, *Chlorides, Aging, *Smokes

The changes of the distribution of component particles and the particle and weight concentrations by aging were simultaneously determined. From the results thus obtained the condensation process between particles of multiple-dispersed system was considered. The NH_4Cl smoke used in the experiment was found to be composed of the primary, secondary, tertiary and quaternary particles whose mass ratio was 1:2:4:8, but the particles whose mass ratios are 3, 5, 6 and 7 of the primary particles (especially ratio 3) were absent. The condensation process of NH_4Cl smoke having a group distribution was ascertained to differ from that of single-dispersed system.

Korach, Mor.
TRAINING OF CHEMICAL ENGINEERS IN HUNGARY (Az Oktat'si Reform es a Vegyeszmernok-kepzes Elvi Kerdesei). 31 July 61 [12]p. JPRS: 9729.
Order from OTS or SLA $1.60 62-19589

Trans. of Magyar Tudomany (Hungary) 1961, v. 6[68] no. 3, p. 153-159.

DESCRIPTORS: *Chemical engineering, Training, Chemistry, Engineering, Personnel.

Office of Technical Services, Dept. of Commerce, Washington, D. C.
FLUORIDES. Feb 62, 17p. 196 refs. OTS Selective Bibliography SB-492.
Order from OTS $0.10 OTS SB-492

DESCRIPTORS: *Fluorides, *Fluorocarbons, *Bibliography.

Lists 196 foreign and domestic reports on fluorides added to the OTS collection during the period 1946 to February 1962. Covers research on transition element fluorides, nitrogen fluorides and their organic derivatives, elastomers and polymers, fluoride formation in atomic reactors, oxyfluorides, molten fluoride systems, zirconium fluoride phase studies, preparation of yttrium fluoride, nitrosyl and carbonyl fluorides among other subjects. FLUORINE and FLUORINE COMPOUNDS appear in SB-491 and FLUOROCARBONS in SB-493. (Author)

Office of Technical Services, Dept. of Commerce, Washington, D. C.
FLUORINE AND FLUORINE COMPOUNDS. Feb 62, 16p. 423 refs. OTS Selective Bibliography SB-491.
Order from OTS $0.10 OTS SB-491

DESCRIPTORS: *Fluorine, *Fluorides, *Bibliography, Fungicides, Combustion.

Lists 243 foreign and domestic reports on fluorine and its organic and inorganic compounds added to the OTS collection during the period 1946 to February 1962. Covers research on production; storage, handling and disposal; corrosive effects; fungicides; combustion research; radiochemistry of fluorine; chemistry of fluorine and its compounds among other subjects. FLUORIDES are covered in SB-492 and FLUOROCARBONS in SB-493.

Office of Technical Services, Dept. of Commerce, Washington, D. C.
FLUOROCARBONS. Feb 62, 8p. 97 refs. OTS Selective Bibliography SB-493.
Order from OTS $0.10 OTS SB-493

DESCRIPTORS: *Fluorocarbons, *Fluorides, *Bibliography, Lubricants, Hydraulic fluids, Polymers, Resins.

Lists 97 foreign and domestic reports on preparation and chemistry of fluorocarbons; fluorocarbon lubricants and hydraulic fluids; fluorocarbon polymers and resin among other subjects. FLUORINE and FLUORINE COMPOUNDS appear in SB-491 and FLUORIDES in SB-492. (Author)

Sekiguchi, Hikaru.
KINETIC STUDY OF THE CATALYTIC POLYMERIZATION OF α-PYRROLIDONE (II). [1961] 11p. (3 figs 4 tables omitted) 8 refs.
Order from SLA $1.60 61-20859

Trans. of Soc[iété] Chim[ique de] France. Bull[etin] 1960, no. 1831-1834.

DESCRIPTORS: *Pyrrolidinone, *Polymerization, Catalysis, *Reaction kinetics, Lactams

Subsequent to the preparation of polybutanamide from α-pyrrolidone (Soc. Chim. France Bull. 1960: 1827-1830; available in translation from SLA $1.60 as 61-20855) we have studied the kinetics of catalytic polymerization of this pentagonal lactam. Polymerization is initiated by an N-acyl lactam whose acyl residue is incorporated into the polymer; catalysis is by an alkaline salt of the lactam. The reaction is bimolecular and progressive; the rate of conversion is proportional to the concentration of initiator and of catalyst. When the polymer attains a certain degree of polymerization (about 15), the reacting system becomes heterogeneous and the reaction is no longer quantitative ("turbidity point"), since some secondary reactions responsible for chain termination intervene. (Author)

Ulbrich, Raimund.
CHEMISTRY OF SYNTHETICS IN THE USSR: HIGH POLYMER RESEARCH AND SYNTHETICS TECHNOLOGY. 10 Apr 61 [13]p. JPRS: 4523.
Order from OTS or SLA $1.60 62-19293

Trans. of Osteuropa-Naturwissenschaft (West Germany) 1958 [v. 1] no. 1/2, p. 31-39.

DESCRIPTORS: *Chemistry, *Polymers, Synthesis, Industrial research, Chemical industry, Synthetic fibers, Plastics, Synthetic rubber, Production.

Analytical Chemistry

Alekin, O. A., Datsko, V G and Brashnikova, L. V.
ALL-UNION HYDROCHEMICAL CONFERENCE (NO. 14). 20 Nov 61 [4]p. JPRS: 11192.
Order from OTS or SLA $1.10 62-13519

Trans. of Vsesoyuznoe Khimicheskoe Obshchestvo. Zhurnal (USSR) 1961, v. 6, no. 1, p. 94.

DESCRIPTORS: Conferences, *Hydrology, *Chemistry, Water, Sea water, Chemical analysis, Salinity, Organic compounds, Microorganisms.

Artner, E.
CONTRIBUTION OF THE ISOLATION OF SULFIDES. Feb 62.
Order from BISI £2 5s BISI-2502

Trans. of Radex-Rund[schau] (Austria) 1957, no. 5/6, p. 725-726.
DESCRIPTORS: *Sulfides, Separation

Chernyaev, V. N., Krapukhin, V. V., and Martynov, Yu. M.
THE INTENSE PURIFICATION OF SILICON TETRACHLORIDE BY RECTIFICATION. 19 Jan 62 [9]p. 10 refs. JPRS: 12053.
Order from OTS or SLA $1.10 62-15447

Trans. of #Tsvetnye Metally (USSR) 1961 [v. 34] no. 8, p. 56-59.

DESCRIPTORS: *Silicon compounds, *Chlorides, *Purification, *Distilling plants, Impurities, Separation.

Analysis of the conditions of intense purification of silicon tetrachloride from impurities has enabled the proposal of equations for the approximate calculation of the coefficient of separation during purification from nonpolar impurities and those of low polarity. The satisfactory concurrence of the calculated and experimental data has been explained. The practical performance of rectification of technical silicon tetrachloride on columns of different efficiency (11.5, 20 and 31 of the theoretical plate) has shown the possibility of purification from impurities of low polarity and nonpolarity and the absence of purification for highly polar impurities (iron, aluminum and calcium). (Author)

Sanin, P. I.
INVESTIGATION OF ACIDS FROM NATURAL ASPHALTS. [1961] 11p. 16 refs.
Order from OTS or SLA $1.60 61-18893

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1943, no. 5/6, p. 18-28.

DESCRIPTORS: *Asphalts, Chemical analysis, *Organic acids, Separation, Bitumens, *Petroleum, Oils, Meteorology.

Two natural asphalts were examined: kir, a bituminous material containing over 89% ash, which is regarded as a product of weathering of oil, and Kair asphaltite containing only 0.4% ash and showing no signs of being subjected to extensive oxidation. The organic portion of the first contained 1.37% sulfur, that of the second, 6.88%. From the first, 6-7% acids on the organic matter were isolated and an analysis of these acids gave data on the basis of which it is suggested that action of air on oil under natural conditions may first form acids tending to conversion to high molecular aromatic compounds of the type of humic acids, although differing from the latter. Acids liberated from Kair asphaltite were for the most part infusible and soluble in aqueous acetone, while in kir asphalt the low melting acids predominated. The acids of Kair asphaltite, while insignificant in quantity (0.14% on the asphaltite), are much closer to typical humic acids than the acids isolated from the bituminous material of kir. This may indicate the presence in asphaltite of cyclic compounds, which tend to form humic acids even upon short contact with air. (Author)

Senju, R. and Okimasu, S.
STUDIES ON CHITIN. I. ON THE GLYCOLATION OF CHITIN AND THE CHEMICAL STRUCTURE OF GLYCOL CHITIN, tr. by E. R. Hope. 1961, 15p. 16 refs. NRCC Technical Trans. 986.
Order from NRCC $1.00 NRCC C-3850

Trans. of [Nihon Nogei-Kagakkai Shi] (Japan) 1950, v. 23, no. 10, p. 432-437.

DESCRIPTORS: *Shellfish, *Chitin, Chemical analysis, *Glycogen, Glycols, *Glucosides.

Zin'kov, Z. E., Danyushevskii, Ya. L. and others. NIEUWE METHODES VOOR DE QUANTITATIEVE BEPALING VAN NAFTALEENSULFONZUREN (Determination of Sulfonic Acids of Naphthalene) tr. by G. J. M. Fritschy. 7p. MTWL: 92. (text in Dutch).
Order from OTS or ETC $1.55 61-17757

Partial trans. of Zhurnal Prikladnoi Khimii (USSR) 1936, v. 9, p. 1997-2020.

DESCRIPTORS: *Sulfonic acids, *Naphthalenes, Chemical analysis.

Organic Chemistry

MACROMOLECULAR CHEMISTRY: SELECTED PAPERS. Apr 61, 112p. 59 refs.
Order from OTS $2.25 AEC-tr-4470

Trans. of mono. Khimiya i Tekhnologiya Polimerov: Materialy Mezhdunarodnogo Simpoziuma po Makromolekulyarnoi Khimii (Proceedings of the International Symposium on Macromolecular Chemistry) Moscow, 14-18 June 50.

DESCRIPTORS: *Chemistry, *Polymers, Molecules, Molecular structure, Styrenes, Butenes, Acrylonitriles, *Polymerization, Copolymerization, Radiation effects, Gamma rays, Pyrolysis, Amides, Condensation reactions, Semiconductors, Ethylenes, Benzenes, Acetylenes.

Contents:
On cationic and anionic gamma-ray induced polymerization mechanisms, by A. D. Adkin and others
Polymerization processes on insoluble molecularly dispersed substances, by V. A. Kargin and V. A. Kabanov
Polymerization and grafting processes on freshly formed surfaces, by V. A. Kargin and N. A. Plate
Polyamidation process in the solid phase, by A. V. Volokhina and others
Synthesis of polymeric materials processing semiconductor properties, by M. A. Geiderikh and others
The role of free radical source in the cross-linking of polyethylene, by R. Rado and M. Lazar
The protective action of benzene rings in the radiolysis of polystyrene, by A. N. Pravednikov and In Shen-kan
Polymers with inorganic principal chains in their molecules, by K. A. Andrianov
Polymer with a conjugated bond system and heteroatoms in the conjugation chain, by A. A. Berlin
Collective reaction in polymerization processes at low temperatures and in polymers with conjugated bonds, by N. N. Semenov.

PROBLEMS IN THE THEORY OF THE STRUCTURE OF ORGANIC COMPOUNDS. 15 Jan 62 [258]p. 620 refs. JPRS: 11959.
Order from OTS or SLA $16.50 62-15495

Trans. of mono. Voprosy Teorii Stroeniya Organicheskikh Soedinenii, Leningrad, 1960, 240p.

DESCRIPTORS: *Organic compounds, *Molecular structure, Isomeric transitions, Molecular isomerism, Stereochemistry, Chemistry, Chemical reactions, Synthesis, Acetylenes, Hydrocarbons, Polymers, Methanes, Allenes, Terpenes, Isoprene, Alcohols, Glycols, Furan, Ketones, Halogens, Steroids.

Contents:
The evolution of the ideas of Favorskii on the passage of chemical reactions and the contemporary understanding of the mechanisms of Favorskii reactions, by S. N. Danilov
The development of the works of A. E. Favorskii in the area of the synthesis and transformations of acetylenic hydrocarbons and their haloid derivatives, by A. I. Zakharova
The development of works of A. E. Favorskii in the area of polymethylene rings, by N. A. Domnin and others
The development by the Soviet School of Chemists of the ideas of A. E. Favorskii in the field of synthesizing the terpenes and related compounds
The role of A. Favorskii's research in the synthesis of isoprenoid compounds, by L. A. Yanovskaya and V. F. Kucherov
Reaction mechanisms of alcohols and glycols with dehydrating agents, by T. A. Favorskaya
Research in the field of 2-oxydihydrofurans-2, 5, by E. D. Venus-Danilova
The reaction of A. E. Favorskii in the synthesis of tertiary 1, 2, 5-triols of the acetylene series, by V. I. Nikitin
Isomeric transformations of ketones, by T. E. Zalesskaya
Problem of the participation of neighboring groups in chemical processes; chemical transformation of α haloketones, by T. I. Temnikova
Concerning the application of the idea of A. E. Favorskii and the reactions discovered by him to the chemistry of steroid compounds, by A. A. Akhrem.

PROCESS FOR THE SEPARATION OF PETROLEUM HYDROCARBONS INTO AROMATICS AND NONAROMATICS BY EXTRACTION WITH TWO SOLVENTS. [1961] 10p.
Order from ATS $16.95 ATS-61N57F

Trans. of French patent 1, 264, 508, by Badger Mfg. Co. (U. S. A.) filed 29 Apr 60, granted 15 May 61.

DESCRIPTORS: *Petroleum, *Hydrocarbons, Separation, Solvent extraction.

PROCESS OF POLYMERIZING OLEFINES, tr. by F. H. B. 16 Jan 62, 6p. 1 ref.
Order from OTS or SLA $1.10 62-15746

Trans. of French patent 1,184,303, gr. 14, cl. 8, Internat. class. C 08 f, by L'Air Liquide (Société Anonyme pour l'Étude et l'Exploitation des Procédés Georges Claude, appl. 14 Oct 57, granted 2 Feb 59, pub. 20 July 59.

DESCRIPTORS: *Ethylenes, *Polymerization, Organic solvents, Catalysts, Hydrogen.

A process is proposed for polymerizing olefines, particularly ethylene, at a relatively low pressure in an inert organic solvent in the presence of a catalyst containing a halide of a metal of periodic element system group 3 and a halide of a heavy metal of periodic system groups 4 to 6. The process is characterized in that the catalyst contains also a metal of periodic system groups 1 or 8 and that it is treated with hydrogen.

PRODUCTION OF CONCENTRATED HYDROCHLORIC ACIDS. [1961] 13p.
Order from OTS or SLA $1.60 62-10667

Trans. of Belgian patent 593155, by Diamond Alkali Co., U. S. A. [1960] (Int. Conv.: Request for U. S. A. patent 828,151 filed 20 July 59 by Robert C. Sutter, representing the requesting co.).

DESCRIPTORS: *Hydrochloric acid, Production, Acids, Separation, Cooling, Absorption.

The process is characterized by the separation of HCl gas and azeotropic hydrochloric acid, starting from a hydrochloric acid of a concentration higher than the azeotropic acid, by cooling the HCl gas so separated, by absorbing the cooled HCl gas in hydrochloric acid with the purpose of increasing the concentration of this hydrochloric acid and by recuperating the hydrochloric acid so concentrated.

SOVIET DEVELOPMENTS IN CHEMISTRY. 4 Dec 61 [19]p. (5 refs. omitted) 28 refs. JPRS: 11307.
Order from OTS or SLA $1.60 62-15482

Trans. of #Zhurnal Obshchei Khimii (USSR) 1961, v. 31, no. 8, p. 2609-2613 and 2623-2629.

DESCRIPTORS: *Chemistry, Polymers, Methanes, Quinine, Halides, Alkyl radicals, Amines, Esters, Ethyl radicals, Synthesis, Mandelic acids, Acetic acids, Acids, Chemical reactions.

Contents:
Synthesis of polymethylene-bis-quinuclidine halides, by E. E. Mikhlina and others
Alkylaminoethyl esters of benzilic and diphenylacetic acids, by S. G. Kunzetsov

Arbuzova, H. A., Kostikov, R. R., and Propp, L. N.
POLYMERIZATION OF DIVINYLBENZAL. [1961] [5]p. 5 refs.
Order from OTS or SLA $1.10 62-13908

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2 [no. 9] p. 1402-1404

DESCRIPTORS: *Ploymerization, Acid, Benzenes, Catalysts, *Vinyl radicals.

Polymerization in the presence of initiators of the radical type yielded a linear polymer of divinylbenzal, whose physical properties and analytical data indicated that it had a cyclic structure.

Avramenko, L. I., Ioffe, I. I., and Lorentso, R. V.
THE REACTION OF OXYGEN ATOMS WITH BENZENE [O Reaktsii Atomov Kisloroda s Benzolom]. [1962] 2p.
Order from ATS $4.25 ATS-57P59R

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1949, v. 66, no. 6, p. 1111-1112.
Another trans. is available from NRCC as TT.121.

DESCRIPTORS: *Oxygen, Atoms, *Benzenes, Chemical reactions.

Blyumberg, E. A., Zaikov, G. E., and Emanuel, N. M.
OXIDATION OF n-BUTANE IN THE GAS AND IN THE LIQUID PHASE. [1962] 4p.
Order from ATS $6.40 ATS-58P59R

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1961, v. 139, no. 1, p. 99-101.

DESCRIPTORS: *Butanes, Oxidation, Gases, Liquids, Phase studies

Chiusoli, G. and Minisci, F.
REACTIVITY OF FREE RADICALS WITH CARBON MONOXIDE AND NITRIC OXIDE. [1961] 4p.
Order from ATS $5.00 ATS-79P581

Trans. of Accad[emia] Naz[iona]l[e dei] Lincei. Classe [di] Sci[enze] Fis[iche] Mat[ematiche] e Nat[urali] Rend[iconti] (Italy) 1957 [ser. 8] v. 23, p. 140-143.

DESCRIPTORS: *Free radicals, *Carbon compounds, *Monoxides, Chemical reactions, Oxides, Nitrogen compounds

Dyatkina, M. E.
BASICITEIT VAN HETEROCYCLISCHE VERBINDINGEN (Basicity of Heterocyclic Compounds) tr. by J. H. van Santen. 5p. 2 refs. MTWL: 191. (text in Dutch).
Order from OTS or ETC $1.40 61-17815

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 59, p. 517-518.

DESCRIPTORS: *Ionization, Heterocyclic compounds, Pyridines, Quinolines, Acridines, *Nitrogen compounds.

Elagina, N. V. and Eidus, Ya. T.
REACTION BETWEEN CARBON MONOXIDE AND ORGANOMAGNESIUM COMPOUNDS. [1961] 3p. 26 refs.
Order from OTS or SLA $1.10 62-10824

[Condensed] trans. of Uspekhi Khimii (USSR) 1944, v. 13, no. 5, p. 375-388.

DESCRIPTORS: *Carbon compounds, *Monoxides, *Organic compounds, *Magnesium compounds, Chemical reactions, Grignard reagents.

Fioshin, M. Ya. and Tomilov, A. P.
ELECTRICAL PRODUCTION OF POLYMERS: ELECTROCHEMICAL INITIATION OF POLYMERISATION OF LOW MOLECULAR ALIPHATIC HALOGENATED OLEFINS. [1961] 2p. 4 refs. [DSIR NLL M 4331.
Order from OTS or SLA $1.10 62-13150

Partial trans. of Plasticheskie Massy (USSR) 1960, no. 10, p. 4-5.

DESCRIPTORS: *Ethylenes, *Fluorides, *Polymerization, *Chlorides, Electrolysis, *Polymers, Electrochemistry, Molecular structure, Chemical analysis.

Three examples are given of electrochemical initiation of polymerisation of chlorofluorethylene and fluórethylene. The electrochemical initiation of polymerisation of halogenated olefins does not require high pressures or temperatures and, consequently, it is free from the disadvantages characteristic of chemical initiation.

Gluzman, M. Kh., Dashevskaya, B. I., and Bodnya, V. M.
PREPARATION OF POLYETHYLENE OXIDES BY POLYMERIZATION OF ETHYLENE OXIDE. [1961] [10]p. 20 refs.
Order from OTS or SLA $1.10 62-13839

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2 [no. 12] p. 1832-1838.

DESCRIPTORS: *Ethylene oxide, *Polymers, Preparation, Polymerization, Catalysts.

Two methods of preparing polyethylene oxides were developed: by polymerization of ethylene oxide in an autoclave under pressure and by bubbling gaseous ethylene oxide through alkaline solutions of the glycol in apparatus of the column type. The composition of the polyethylene oxides and their properties are determined principally by the ethylene oxide : water and ethylene oxide : glycol ratios. The molar ratio of ethylene oxide to potassium hydroxide makes itself felt only at extremely low percentages of the alkali. The maximum molecular weights of the polyethylene oxides prepared by one of the methods cited above, in the presence of potassium and sodium hydroxides as the catalysts and with ethylene oxide of standard quality, are about 4000. The reaction rate when performed in the liquid phase under pressure is governed by the temperature, the conditions of contact between the reactant substances, and the percentage of catalyst, the first two factors being of decisive importance. The rate of polymerization of the ethylene oxide passed through apparatus of the column type is inversely proportional to the molecular weight of the polymers, reaching a maximum at optimum percentages of the catalyst. The reaction proceeds with the evolution of large quantities of heat during the initial stage of ethylene oxide polymerization, the exothermic nature of the reaction falling off as the polymer chain grows longer. Polymerization of ethylene oxide can be broken off at any stage and then resumed provided the previous reaction conditions are preserved. (Author)

Gutner, R., Morozova, G. and others.
HYDROLYSE VAN CHLOORBENZOL IN DE DAMPFASE. MEDEDELING II. (Vapor-phase Hydrolysis of Chlorobenzene. Contribution II) tr. by G. J. M. Fritschy. 10p. 3 refs. MTWL: 98. (text in Dutch).
Order from OTS or ETC $1.55 61-17763

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1946, v. 19, p. 504-510.

DESCRIPTORS: *Benzenes, *Chlorides, Hydrolysis, Vapors, Phenols.

Kern, Werner and Cherdon, Harald.
THE DEGRADATION OF POLYOXYMETHYLENES. [1961] 15p.
Order from SLA $1.60 62-10679

Trans. of Makromolekulare Chemie (Switzerland) 1960, v. 39, no. 3, p. 101-117.

DESCRIPTORS: *Formaldehyde, Decomposition, *Methanes, Polymers, Pyrolysis, Molecular structure, Chemical reactions, *Methyl ethers, Ethers.

The degradation is followed of polyoxymethylenes which have been prepared by different methods. It is possible to differentiate different degradation reactions and to characterize these separately.

Khomikovskii, P. M.
HET MECHANISME VAN DE EMULSIE POLYMERISATIE. DE POLYMERISATIE VAN ACRYLZUURNITRIL EN METHYL-METHACRYLAAT IN WATER EN ZEEPOPLOSSINGEN (The Mechanism of the Emulsion Polymerisation. The Polymerisation of Vinyl Cyanide and of Methyl Methacrylate in Solutions of Water and Soap) 7p. MTWL: 193. (text in Dutch).
Order from OTS or ETC $1.55 61-17817

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 60, no. 4, p. 615-618.

DESCRIPTORS: *Polymerization, Colloids, Acrylonitrile, *Acrylic resins, Methyl radicals.

Korshak, V. V. and Kolesnikov, G. S.
MECHANISM OF THE FRIEDEL-CRAFTS REACTION, I. [1961] 3p. 8 refs.
Order from OTS or SLA $1.10 62-10850

[Condensed] trans. of Zhurnal Obshchei Khimii (USSR) 1944, v. 14, no. 6, p. 435-437.

DESCRIPTORS: *Friedel-Crafts reactions, Chemical reactions, Benzenes, Ketones.

Kretov, A. E.
ACYLATION OF N,N DICHLORARYLSULFAMIDES AND ARYLSULFAMIDES BY MEANS OF ANHYDRIDES OF AROMATIC ACIDS. [1961] 5p. (2 tables omitted) 1 ref.
Order from OTS or SLA $1.10 62-10606

Trans. of Ukrain[skii] Khim[icheskii] Zhur[nal] (USSR) 1957, v. 23, no. 4, p. 493-495.

Portions of this report will not reproduce well.

DESCRIPTORS: *Sulfamide, *Acylation, Anhydrides, Acids, Synthesis, Aluminum compounds, Chlorides.

A series of acyl derivatives of arylsulfamides were synthesized by acting on arylsulfamides and N,N-dichlorarylsulfamides with anhydrides of aromatic acids, in contact with aluminum chloride. (Author)

Konstantinopol'skaya, M. B., Berstneva, Z. Ya., and Kargin, V. A.
HELICAL STRUCTURES OF POLYETHYLENE. [1961] [5]p. 5 refs.
Order from OTS or SLA $1.10 62-13989

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2 [no. 11] p. 1714-1716.

DESCRIPTORS: *Ethylenes, *Polymers, Microanalysis, Microstructure, Electron microscopy.

Secondary structures of polyethylene, exhibiting a helical structure, have been obtained. (Author)

Korneichuk, G. P., Roiter, V. A. and others.
[CHARACTERISTICS] OF THE CATALYTIC OXIDATION OF NAPHTHALENE. II. INVESTIGATION OF THE OXIDATION OF NAPHTHALENE IN DEEP BEDS OF VANADIA CATALYSTS. [1962] 8p.
Order from ATS $13.40 ATS-46N53R

Trans. of Ukrain[skii] Khim[icheskii] Zhur[nal] (USSR) 1960, v. 26, no. 4, p. 432-439.

DESCRIPTORS: *Naphthalenes, Oxidation, Catalysis, Vanadium catalysts, Oxides.

See also ATS-73M47R

Lanovskaya, L. M., Gantmakher, A. R., and Medvedev, S. S.
POLYMERIZATION OF ETHYLENE WITH THE COMPLEX CATALYST α-$TiCl_3$-AlR_3 IN THE PRESENCE OF VARIOUS MONOMERS. II. SOME ASPECTS OF THE MECHANISM OF POLYMERIZATION IN THE PRESENCE OF COMPLEX CATALYSTS. [1961] [5]p. 14 refs.
Order from OTS or SLA $1.10 62-13838

Trans. of Vysokomolekulyarne Soedineniya (USSR) 1960, v. 2 [no. 11] p. 1655-1658.

DESCRIPTORS: *Ethylenes, *Polymerization, *Catalysts, Butadienes, Isoprenes, Styrenes, *Titanium compounds, Chlorides, *Aluminum compounds.
The observed decrease in the rate of polymerization of ethylene in the presence of various monomers is attributed to the formation of coordination compounds of the monomers with the titanium component of the catalyst. The monomers investigated may be arranged in the following sequence of ability to form coordination compounds with the catalyst: butadiene > isoprene > styrene > isobutylene > α-methylstyrene. The data obtained confirm the assumption that the process of polymerization in the presence of complex catalysts is not a typically anionic process, but is more complicated, indicating that the titanium component of the catalyst participates in the act of chain growth. (Author)

Lebedev, S. V. and Koblyanskii, G. G.
INVESTIGATION IN THE DOMAIN OF POLYMERIZATION. ARTICLE 12. 21p. MTWL: 175.
Order from OTS or ETC $1.87 61-17841

Trans. of Zhurnal Russkogo Fizikokhimicheskogo Obshchestva (USSR) 1929, v. 61, no. 10, p. 2175-2187.

DESCRIPTORS: *Polymerization, *Butenes.

Lebedev, S. V. and Livshitz, I. A.
INVESTIGATION IN THE DOMAIN OF POLYMERIZATION. ARTICLE 14. DEPOLYMERIZATION OF TRIISOBUTYLENE. 23p. MTWL: 174.
Order from OTS or ETC $1.91 61-17840

Trans. of Zhurnal Obshchei Khimii (USSR) 1934, v. 4, no. 1, p. 13-22.

DESCRIPTORS: *Butenes, *Polymers, Polymerization.

Lel'chuk, S. L., Balandin, A. A., and Vaskevich, D. N.
"SKELETON" CATALYSTS AND THEIR APPLICATION IN ORGANIC CHEMISTRY. [1961] 17p. 187 refs.
Order from OTS or SLA $1.60 62-10827

[Condensed] trans. of Uspekhi Khimii (USSR) 1945, v. 14, no. 3, p. 185-212.

DESCRIPTORS: *Catalysts, Hydrogenation, Oxidation, Condensation reactions, Catalysis, Dehydration, Organic compounds.

Lyubetskii, S. G., Dolgoplosk, B. A., and Erusalimskii, B. L.
KINETICS OF ETHYLENE POLYMERIZATION IN BENZENE AND HEPTANE SOLUTION. Pt. 1 of the Polymerization of Ethylene Under the Influence of Free Radicals. [1962] 7p.
Order from ATS $9.25 ATS-67N53R

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1961, v. 3, no. 5, p. 734-739.

DESCRIPTORS: *Ethylenes, *Polymerization, *Reaction kinetics, *Benzenes, Free radicals, Solutions, Heptanes.

Nesmeyanov, Alexander N., Strepicheev, Alexander A. and others.
THE APPLICATION OF THE TELOMERIZATION REACTION TO THE SYNTHESIS OF ω-AMINO ACIDS AND THE PREPARATION OF NEW POLYAMIDE FIBERS BASED ON THEM. [1961] 24p. 46 refs.
Order from SLA $2.60 62-14065

Trans. of Chem[ische] Tech[nik] (East Germany) 1957, v. 9, no. 3, p. 139-150.

DESCRIPTORS: *Isomeric transitions, Stereochemistry *Molecular isomerism, Synthesis, *Amino acids, Amides, Polymers, Fibers, Carboxylic acids, Thio radicals, *Synthetic fibers

Research showed that, starting with ethylene and carbon tetrachloride, through the synthesis of α,α,α,ω-tetrachloroalkanes, a series of higher ω-amino acids can be prepared in high yield, among them especially ω-aminoenanthic and ω-aminopelargonic acid. By polycondensation of ω-aminoenanthic and ω-aminopelargonic acid were prepared the new polyamide fibers later designated as Enanth and Pelargon. It is shown that these amino acids possess a series of advantages over caprolactam as a raw material for the preparation of artificial fibers, and that, moreover, the fibers Enanth and Pelargon excel capron and nylon in several properties. From the tetrachloroalkanes were prepared further bifunctional derivatives, such as dicarboxylic acids and thiocarboxylic acids, whose synthesis can be included in the scheme of the common working-up of all the tetrachloroalkanes produced. (Author)

Nikitin, E. K. and Spiridonova, S. I.
AN INVESTIGATION OF THE EFFECT OF COMPLEX FORMATION OF ALCOHOLS WITH ELECTROLYTES ON THE CURVES OF PHYSICAL TITRATION UP TO THE TURBIDITY POINT. Mar 62.
Order from BISI 3 15s BISI-2571

Trans. of Izvestiya V[ysshikh] U[chebnykh] Z[avedenii] Khim[iya] i Khim[icheskaya] Tekhnol[ogiya] (USSR) 1961, v. 4, no. 1, p. 33-37.

DESCRIPTORS: *Alcohols, Electrolytes, Titration.

Pigulevskii, G. V. and Ryskal'chuk, A. T.
INVESTIGATION OF TURPENTINE FROM PINUS SYLVESTRIS BY THE RAMAN SPECTRA METHOD. [1961] 6p. 15 refs.
Order from OTS or SLA $1.10 62-10864

[Condensed] trans. of Zhurnal Obshchei Khimii (USSR) 1945, v. 15, no. 7/8, p. 678-683.

DESCRIPTORS: *Turpentine, *Raman spectroscopy, Fractionation, Spectrographic analysis, Pine.

Popov, E. M., Kabachnik, M. I., Mayants, L. S.
VIBRATIONAL SPECTRA OF ORGANO-PHOSPHORUS COMPOUNDS. 8 Nov 61 [42]p. 130 refs. JPRS: 11033.
Order from OTS or SLA $4.60 62-13423

Trans. of #Uspekhi Khimii (USSR) 1961, v. 30, no. 7, p. 846-876.

Portions of this report will not reproduce well.

DESCRIPTORS: *Organic compounds, *Phosphorus compounds, Infrared spectroscopy.

In this survey works are examined which are dedicated to the interpretation of vibrational spectra of organophosphorus compounds, theoretical analysis of oscillations of phosphorus containing molecules and the application of vibrational spectra to the solution of several problems in the chemistry of organo-phosphorus compounds. In the appendix a list is given of the organophosphorus compounds whose vibrational spectra are published in the literature. (Author)

Popov, M. A. and Popova, V. A.
DE KATALYTISCHE VERZEPING VAN PARA DICHLOOR- EN PARA DIBROOMBENZOL MET STOOM (Catalytic Hydrolysis of p-Dichloro- and p-Dibromobenzene with Water Vapor) tr. by C. van der Hoeven and G. J. M. Fritschy. 8p. 5 refs. MTWL: 105. (text in Dutch).
Order from OTS or ETC $1.55 61-17750

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1936, v. 9, p. 1303-1307.

DESCRIPTORS: *Hydrolysis, Catalysis, *Benzenes, Chlorides, Bromides, Water vapor.

Sakurada, Y.
COPOLYMERIZATION OF STYRENE AND 2-METHYL-5-VINYLPRIDINE IN THE PRESENCE OF $Al(C_2H_5)_3$-$TiCl_4$ AS A CATALYST. [1962] 11p.
Order from ATS $20.80 ATS-27P59J

Trans. of Kobunshi Kagaku (Japan) 1961, v. 18, no. 196, p. 496-503.

DESCRIPTORS: *Copolymerization, *Styrenes, *Methyl radicals, *Vinyl radicals, *Pyridines, Catalysts, Aluminum compounds, Ethyl radicals, Titanium compounds, Chlorides

Sekiguchi, H.
PREPARATION OF POLYBUTANAMIDE FROM α-PYRROLIDONE (I) [1961] [14]p. (1 fig, 20 refs, 1 table omitted).
Order from SLA $1.60 61-20855

Trans. of Soc[iété] Chim[ique de] France. Bull[etin] 1960, p. 1827-1830.

DESCRIPTORS: *Pyrroles, *Polymers, *Canavanine, *Amides, Polymerization, Condensation reactions.

Shantarovich, P. S. and Shlyapnikova, I. A.
POLYMERIZATION OF CYCLOHEXADIENE. [1961] [7]p. 3 refs.
Order from OTS or SLA $1.10 62-13767

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2, no. 8, p. 1171-1175.

DESCRIPTORS: *Cyclohexadienes, Polymerization, Heat of reaction, Peroxides, Reaction Kinetics.

The polymerization of cyclohexadiene is described for the case when the reaction is initiated by heat and by peroxide. It was established that in thermal initiation the original centers of polymerization are produced as the result of a bimolecular reaction involving the formation of a diradical. The reaction has an extremely low frequency factor. The diradical center vanishes during the autosaturation and cyclization reaction (provided there are no steric hindrances thereto). At high temperatures the diradical is converted into the monoradical, which ensures the progress of high-molecular polymerization.

Shatenshtein, A[leksandr] I[saevich].
ISOTOPIC EXCHANGE AND THE REPLACEMENT OF HYDROGEN IN ORGANIC COMPOUNDS. Apr 62, 311p.
Order from CB $19.50

Trans. of [Izotopnyi Obmen i Zameshchenie Vodoroda v Organicheskikh Soedineniyakh, Moscow, 1960, 394p.]

DESCRIPTORS: *Organic compounds, Hydrogen, *Isotopes, *Exchange reactions.

Shlyapnikov, Yu. A., Miller, V. B. and others.
A STUDY OF THE COMPARATIVE EFFECTIVENESS OF SOME ANTIOXIDANTS. Pt. 3 of the Thermo-Oxidative Degradation of Polypropylene. [1962] 4p.
Order from ATS $6.25 ATS-81N52R

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2, no. 9, p. 1409-1412.

DESCRIPTORS: Propenes, *Antioxidants, Effectiveness, Polymers, Heat.

Sokolova, T. A. and Rudkovskaya, G. A.
CYCLIC POLYMERIZATION. I. N-METHYLDIMETHACYLAMIDE. [1961] [7]p. 23 refs.
Order from OTS or SLA $1.10 62-13909

Trans. of Vysokomolekulyarnye Soedineniya (USSR) [1961] v. 3, p. 706-710.

DESCRIPTORS: *Polmerization, *Amides, Polymers, Peroxides, *Molecular structure, Methyl radicals.

N-methyldimethacrylamide can be block polymerized with peroxide initiators, yielding a soluble linear polymer that contains rings in its chain. The cyclic structure of polymethyldimethacrylamide was established by synthesis of a similar polymer via deamination of polymethylmethacrylamide.

Tilicheev, M. D. and Kachmarchik, Yu. M.
STANDAARD CETAAN (Standard Cetane) 10p. 2 refs. MTWL: 199. (text in Dutch).
Order from OTS or ETC $1.55 61-17823

Trans. of Neftyanoe Khozyaistvo (USSR) 1947, v. 25, no. 7, p. 47-51.

DESCRIPTORS: *Hydrocarbons, Physical Chemistry.

Topchiev, A. V., Kurashev, M. V., and Gavrilenko, I. F.
AN INVESTIGATION OF THE ALKYLATION OF AROMATIC HYDROCARBONS: ALKYLATION OF NAPHTHALENE WITH PROPENE OVER AN ALUMINOSILICATE CATALYST AT MODERATE TEMPERATURES. [1962] 6p.
Order from ATS $7.60 ATS-82N56R

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1961, v. 139, no. 1, p. 124-127.

DESCRIPTORS: *Alkylation, *Hydrocarbons, *Naphthalenes, *Propenes, Aluminum compounds, Silicates, Catalysts, Temperature.

Tsen, Khan-min and Kolesnikov, G. S.
CARBON CHAIN POLYMERS AND COPOLYMERS. XXIX. SYNTHESIS OF DIPHILIC GRAFT COPOLYMERS. [1961] [9]p. 8 refs.
Order from OTS or SLA $1.10 62-13769

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2 [no. 12] p. 1870-1874.

DESCRIPTORS: *Polymers, Synthesis, Copolymerization, Esters, *Acrylic acids.

It has been shown that graft copolymers of the diphilic type may be produced by heating mixtures of methacrylic and ω-hydroxypelargonic acids or of methacrylic acid and the polyhydroxypleargonate in the presence of p-toluenesulfonic acid. The properties of the resultant graft copolymers have been investigated. It has been shown that spherulites are formed in the graft copolymers. (Author) (See also 60-18470, 61-10703, 61-20643)

Vol'fson, V. Ya., Korneichuk, G. P. and others.
[CHARACTERISTICS] OF THE CATALYTIC OXIDATION OF NAPHTHALENE. III. KINETICS OF THE OXIDATION OF NAPHTHALENE IN DEEP BEDS OF VANADIA CATALYSTS. [1962] 6p.
Order from ATS $9.45 ATS-47N53R

Trans. of Ukrain[skii] Khim[icheskii] Zhur[nal] (USSR) 1960, v. 26, no. 5, p. 588-593.

DESCRIPTORS: *Naphthalenes, Oxidation, Catalysis, Vanadium catalysts, Oxides.

See also ATS 46N53R

Yamaji, T.
THE EFFECTS OF SULFUR COMPOUNDS ON THE DECOMPOSITION OF TETRALIN HYDROPEROXIDE. [1962] 9p.
Order from ATS $13.10 ATS-56P58J

Trans. of Sekiyu Gakkai Shi (Japan) 1960, v. 3, no. 2, p. 116-120.

DESCRIPTORS: *Hydroperoxides, Decomposition, *Sulfur compounds.

Zabolotskaya, E. V., Gantmakher, A. R., and Medvedev, S. S.
POLYMERIZATION OF STYRENE BY THE ACTION OF COMPLEX CATALYSTS. [1961] [12]p. 15 refs.
Order from OTS or SLA $1.60 62-13833

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2 [no. 8] p. 1213-1220.

DESCRIPTORS: *Styrenes, *Polymerization, Catalysts, Titanium compounds, Chlorides, Aluminum compounds, Alkyl radicals, Benzenes, Polymers.

A study was made of the kinetics of styrene polymerization by the action of titanium trichloride and an alkyl aluminum in benzene. The rate of polymerization is proportional to the concentrations of the monomer and the titanium trichloride. The activation energy of the styrene polymerization process is 11 Kcal/mol. The fact that the length of the molecular chain is independent of the monomer concentration indicates that the n olecular weight of polystyrene is governed by the transfer reaction from the chain to the monomer. (Author)

Zavgorodnii, S. V.
BORON FLUORIDE AS A CATALYST IN ORGANIC CHEMISTRY. III. VELOCITY OF CONDENSATION OF CYCLOHEXENE WITH CARBOXYLIC ACIDS IN THE PRESENCE OF BORON FLUORIDE IN SOLVENTS. [1961] 3p. 11 refs.
Order from OTS or SLA $1.10 62-10849

[Condensed] trans. of Zhurnal Obshchei Khimii (USSR) 1944, v. 14, no. 6, p. 428-434.

DESCRIPTORS: *Boron compounds, *Fluorides, Catalysts, *Cyclohexenes, *Carboxylic acids, Condensation, Velocity, Organic solvents.

Physical Chemistry

Abkin, A. and Medvedev, S. S.
KATALYTISCHE VERZEPING VAN ALKYLHALOIDEN IN DE DAMPPHASE. II. WINNING VAN METHANOL, FORMALDEHYDE EN BENZOYLCHLORIDE UIT CHLOORMETHYL, DICHLOORMETHAAN EN BENZOTRICHLORIDE (The Vapor Phase Catalytic Hydrolysis of Alkyl Halides. II. Preparation of Methanol, Formaldehyde and Benzoyl Chloride from Methyl Chloride, Dichloromethane and Benzotrichloride). 18p. 9 refs. MTWL: 205. (text in Dutch).
Order from OTS or ETC $1.85 61-17814

Trans. of Zhurnal Khimicheskoi Promyshlennosti (USSR) 1934, v. 11, no. 1, p. 30-34.

DESCRIPTORS: Alkyl radicals, Halides, *Hydrolysis, Catalysis, *Methanols, *Formaldehyde, Benzoyl radicals.

Balandin, A. A.
D. I. MENDELEEV, THE PERIODIC SYSTEM OF ELEMENTS AND CATALYSIS. [1961] 4p. 36 refs.
Order from OTS or SLA $1.10 62-10823

[Condensed] trans. of Uspekhi Khimii (USSR) 1944, v. 13, no. 5, p. 365-374.

DESCRIPTORS: *Chemical elements, *Catalysis, *Periodic variations, Isotopes, Metals, Lattices, Exchange reactions, Hydrogen.

Barmashenko, I. B. and Gorbachevskaya, L. A.
HYDROGEN OVERVOLTAGE ON POROUS IRON AND IRON-NICKEL CATHODES IN ELECTROLYSIS OF A SODIUM CHLORIDE SOLUTION. 14 Dec 61 [18]p. 23 refs. FTD-TT-61-134.AD-268 861
Order from OTS or SLA $1.60 62-15424

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Khimiya i Khimicheskaya Tekhnologiya (USSR) 1960 [v. 3] no. 4, p. 699-706.

DESCRIPTORS: *Hydrogen, *Iron, Porosity, Nickel, Cathodes, Electrolysis, Sodium compounds, Chlorides, Solutions, Electrolytes, Voltage, Electrochemistry.

Hydrogen overvoltage (η_{H_2}) was investigated on smooth iron and porous, annealed and unannealed iron-nickel electrodes during electrolysis of a sodium chloride solution in the electrolyte with a stationary electrolyte at temperatures from 20 to 80°C and current densities of 100 to 5000 a/m^2. It was established that η_{H_2} on the porous electrodes investigated increased as the current density increased. The dependence of η_{H_2} on log i has a tendency toward deviation from linearity. On porous annealed electrodes, η_{H_2} is somewhat higher than on unannealed and less than on smooth ones by 0.15 to 0.2 v. On porous annealed iron-nickel electrodes, η_{H_2} is less than on a smooth one by 0.4 v. The temperature coefficient of η_{H_2} is negative at various current densities, positive for porous iron electrodes at 60 to 80°C and higher than for smooth ones; with a increase in current density it is increased, while at increased temperature it is somewhat lowered. The results of ex-

periments on measuring η_{H_2} on iron-nickel porous electrodes with flow-through and stationary electrolytes are in good agreement. (Author)

Bogdanovskii, G. A. and Shlygin, A. I.
THE MECHANISM OF THE ELECTROOXIDATION OF ALCOHOLS AND ALDEHYDES ON PLATINUM. III. THE SHAPE OF THE POLARIZATION CURVES FOR THE OXIDATION OF ETHANOL. [1962] 7p.
Order from ATS $10.50 ATS-33P59R

Trans. of #Zhur[nal] Fiz[icheskoi] Khim[ii] (USSR) 1960, v. 34, no. 1, p. 57-62.

DESCRIPTORS: *Alcohols, *Aldehydes, *Oxidation, *Platinum electrodes, Ethanols, Polarization, Chemical reactions.

Boreskov, G. K.
DE KINETICA VAN HET CONTACT-ZWAVELZUUR-PROCES (The Kinetics of the Contact Synthesis of Sulfuric Acid) tr. by G. J. M. Fritschy. 20p. 15 refs. MTWL: 97. (text in Dutch).
Order from OTS or ETC $1.85 61-17762

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1945, v. 19, p. 535-550.

DESCRIPTORS: *Sulfuric acid, Production, *Sulfur compounds, Dioxides, *Oxidation, Theory.

Born, G. I., Ril, N., and Tsimmer, K. G.
NUTTIG EFFECT BIJ DE EXCITATIE VAN DE LUMINESCENTIE VAN ZINKSULFIDE MET β -STRALEN (Efficiency in the Excitation of the Luminescence of Zinc Sulfide by β -rays) tr. by J. H. van Santen. 7p. 6 refs. MTWL: 188. (text in Dutch).
Order from OTS or ETC $1.55 61-17834

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 59, p. 1269-1273.

DESCRIPTORS: *Zinc compounds, *Sulfides, *Luminescence, Beta particles, Excitation.

Braude, G., Shurmovskaya, N. and Bruns, B. P.
KINETICA EN MECHANISME VAN DE KATALYTISCHE HYDROGENERING VAN KOOLMONOXYDE. I. EEN METHODE TER BEREIDING VAN METALLISCHE KATALYSATORS UIT HUN OXYDEN EN HET WERKEN ER MEE ZONDER CONTACT MET DE LUCHT. (Kinetics and Mechanism of the Catalytic Hydrogenation of Carbon-Monoxide. I. Preparation of Metal Catalysts from Oxides and Handling them Without Contact with the Air) tr. by G. J. M. Fritschy 7p. 3 refs. MTWL: 223 (text in Dutch).
Order from OTS or ETC $1.55 61-17796

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1948, v. 22, p. 483-486.

DESCRIPTORS: *Carbon compounds, *Monoxides, Catalysis, *Hydrogenation, Catalysts, Metals.

Chanukvadze, O. P.
DE ELECTRISCHE GELEIDBAARHEID EN VISCOSITEIT VAN HET SYSTEEM SALPETERZUUR-WATER (The Electroconductivity and Viscosity of the System Nitric Acid - Water) tr. by G. J. M. Fritschy. 7p. 7 refs. MTWL: 228. (text in Dutch).
Order from OTS or ETC $1.55 61-17801

Trans. of Zhurnal Obshchei Khimii (USSR) 1947, v. 17, p. 411-415.

DESCRIPTORS: *Nitric acid, Water, *Viscosity, *Electrical conductance.

Chernyak, Ya. N.
ON THE EXPANSION OF GAS BUBBLES IN LIQUIDS OF HIGH VISCOSITY (O Rasshirenii Gazovykh Puzyrkov v Zhidkostyakh s Vysokoi Vyazkost'yu) tr. by G. Fulford. 27 July 60, 4p. 2 refs. [DSIR NLL] M 4285.
Order from OTS or SLA $1.10 62-13132

Unedited trans. of #Zhurnal Tekhnicheskoi Fiziki (USSR) 1959, v. 29 [no. 10] p. 1273-1276.

DESCRIPTORS: *Liquids, *Viscosity, *Gases, *Bubbles, Surface tension, Equations, Chemical reactions.

Davtyan, O. K.
ORIGIN OF THE POTENTIALS OF HYDROGEN AND OXYGEN ELECTRODES AND CHANCES IN IT DEPENDING ON THE DEGREE OF COVERAGE OF THE ACTIVE SITES OF THE CATALYST SURFACE. Pt. 5 of the Investigation of the Mechnaism of Oxidation, Hydrogenation, and Electrochemical Combustion on Solid Catalysts. [1962] 8p.
Order from ATS $12.25 ATS-26P59R

Trans. of #Zhur[nal] Fiz[icheskoi] Khim[ii] (USSR) 1961, v. 35, no. 11, p. 2582-2588.

DESCRIPTORS: *Hydrogen electrodes, *Oxygen electrodes, Electric potential, Catalysts, Surfaces.

Deigen, M. F.
THEORIE VAN HET INWENDIGE PHOTO-ELECTRISCHE EFFECT BIJ POLARONEN EN KLEURCENTRA (Theory of the Internal Photo-electric Effect on Polarons and Color Centers) tr. by J. H. van Santen. 12p. 4 refs. MTWL: 203. (text in Dutch).
Order from OTS or ETC $1.85 61-17812

Trans. of Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki (USSR) 1948, v. 18, p. 818-824.

DESCRIPTORS: *Photo electric effect, Colors, Electrons, Crystals, *Polarization, Theory.

Delimarskii, Yu. K.
MOLTEN ELECTROLYTES. [1961] [18]p. 55 refs.
Order from OTS or SLA $1.60 61-23652

Trans. of Raboty [po] Khim[ii] Rastvorov i Kompleks-[nykh] Soedinenii (USSR) 1954, p. 29-49.
DESCRIPTORS: *Electrolytes, Melting, Metals, Electrochemistry, Salts, Electrodes, Ions, Deformation.

The participation of the Institute of General and Inorganic Chemistry of the Academy of Sciences of the Ukrainian SSR in the investigation of molten electrolytes is summarized The electrochemical series of metals in several molten electrolytes were investigated. These differ substantially from the ordinary aqueous series, based on "standard" electrode potentials. Electrochemical series were set up, based on the employment of many research methods (study of decomposition voltages, chemical circuits, displacement reactions, Jacobi-Daniell cells, the equilibrium constant, polarography, etc.), thus making it possible to obtain quite reliable figures for the electrode potentials. The reference electrodes developed in the institute (glass-mercury-sodium and glass-tin-sodium electrodes) have made it possible to determine the individual electrode potentials in various molten electrolytes. The influence of various factors on the magnitude of the electrode potentials and the electrochemical series of metals in molten salts was ascertained. The effect of the anion on the electrode potentials was determined. The potential of a metal becomes more negative as we pass from the chloride to the bromide and the iodide. The effect of the anion is due to deformation of the ions by the polarizing phenomena occurring in the molten electrolyte. (Author)

Fel'dman, Ya. A., Ivanov, K. N. and Naumova, A. I.
GEBRUIK VAN SIDERIET ALS UITGANGSMATERIAAL VOOR DEN KATALYSATOR VAN DE AMMONIAKSYNTHESE (The Use of Siderite as a Source for Catalysts for Synthesis of Ammonia) 9p. MTWL: 116. (text in Dutch).
Order from OTS or ETC $1.55 61-17741

Trans. of Zhurnal Khimicheskoi Promyshlennosti (USSR) 1935, v. 12, p. 1036-1038.

DESCRIPTORS: *Ammonia, *Synthesis, *Catalysts, Magnetite, Magnesium compounds, Oxides, Iron compounds.

Fialkovskaya, O. V.
EEN NIEUWE ABSORPTIEBAND IN ALKALIHALOGENIDEN-FOSFOREN, GEACTIVEERD MET THALLIUM (New Absorption Band in Thallium-activated Alkali Halide Phosphors) tr. by J. H. van Santen. 6p. 6 refs. MTWL: 184. (text in Dutch).
Order from OTS or ETC $1.55 61-17830

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 60, p. 49-52.

DESCRIPTORS: *Luminescence, *Alkali metal compounds, *Halides, Thallium, Absorption.

Finkel'shtein, A. I.
THE MOLECULAR STRUCTURE OF THE PRODUCT OF LOW-TEMPERATURE DEAMINATION OF MELAMINE. 26 July 61 [6]p. 11 refs.
Order from OTS or SLA $1.10 62-10227

Trans. of #Zhur[nal] Obshchei Khim[ii] (USSR) 1961, v. 31, p. 1132-1135.

DESCRIPTORS: *Melamine, Pyrolysis, Decomposition, Pressure, Cyanamides, *Melem, Molecular structure, Infrared spectroscopy.

Experiments showed that in the thermal decomposition of melamine at atmospheric pressure and 320° to 435°, one molecule of ammonia is evolved per mole of reacted melamine. The previous spectroscopic study (Zhur. Fiz. Khim. 29: 1937-1941, 1955; available in translation from ATS as 25K26R) and the present chemical study show that the initial product of the thermal decomposition of melamine is melem, the triamide of cyameluric acid.

Finkelstein, V. S. and Rubanik, M. Ya.
DE KINETICA DER AMMONIAKSYNTHESE OP EEN TECHNISCHE IJZERKATALYSATOR (Kinetics of the Synthesis of Ammonia on a Technical Iron Catalyst) tr. by G. J. M. Fritschy. 5p. MTWL: 75. (text in Dutch).
Order from OTS or ETC $1.40 61-17778

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1936, v. 8, p. 793-794.

DESCRIPTORS: *Ammonia, Synthesis, *Iron catalysts, Reaction kinetics.

Fradkov, A. B.
OVER HET VERSCHEUREN VAN EEN LAAGJE VLOEIBARE LUCHT DOOR EEN GASSTROOM (Rift of a Film of Liquid Air by a Stream of Gas) 11p. 7 refs. MTWL: 86. (text in Dutch).
Order from OTS or ETC $1.55 61-17770

Trans. of Zhurnal Tekhnicheskoi Fiziki (USSR) 1947, v. 17, no. 5, p. 619-626.

DESCRIPTORS: Air, Liquids, *Gasflow, Surfaces.

Fridman, S. A. and Cherepnev, A. A.
EEN NIEUW TYPE VAN ZINKSULFIDE-LUMINOFOREN (A New Type of Zinc Sulfide Luminophores) tr. by J. H. van Santen. 4p. 2 refs. MTWL: 192. (text in Dutch).
Order from OTS or ETC $1.40 61-17816

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 59, p. 53-55.

DESCRIPTORS: *Zinc compounds, Sulfides, *Luminescent materials.

Gaukhman, S. S. and Roiter, V. A.
DE ROL VAN DE STIKSTOFSORPTIE IN HET MECHANISME VAN DE AMMONIAKSYNTHESE OP EEN TECHNISCHE IJZERKATALYSATOR (The Role of Sorption of Nitrogen in the Mechanism of the Synthesis of Ammonia in the Presence of Technical Iron Catalyst) tr. by S. Kruyer. 12p. 7 refs. MTWL: 76 (text in Dutch).
Order from OTS or ETC $1.85 61-17779

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1938, v. 11, p. 569-577.

DESCRIPTORS: *Ammonia, Synthesis, Iron catalysts, *Nitrogen, *Adsorption, Reaction kinetics.

Gaukhman, S. S. and Roiter, V. A.
VERGELIJKING VAN DE ADSORPTIE- EN VAN DE KATALYTISCHE EIGENSCHAPPEN VAN OP VERSCHILLENDE WIJZE BEREIDE KATALYSATOREN VOOR DE AMMONIAKSYNTHESE (Comparative Characteristics of the Adsorptive and Catalytic Properties of Variously Prepared Synthetic Ammonia Iron Catalysts) tr. by S. Kruyer. 12p. 7 refs. MTWL: 79 (text in Dutch).
Order from OTS or ETC $1.85 61-17782

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1939, v. 13, p. 593-599.

DESCRIPTORS: *Ammonia, Synthesis, *Iron catalysts, Adsorption, Catalysis.

Gel'fman, M. Sh.
DE ABSORPTIE VAN ZWAVELTRIOXYDE DOOR EEN MENGSEL VAN ZWAVEL- EN SALPETERZUUR (Absorption of Sulfur-trioxide by Mixtures of Sulfuric and Nitric Acid) tr. by G. J. M. Fritschy. 9p. 5 refs. MTWL: 222. (text in Dutch).
Order from OTS or ETC $1.55 61-17795

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1947, v. 20, p. 1160-1164.

DESCRIPTORS: Sulfuric acid, Nitric acid, *Sulfur compounds, *Oxides, *Absorption.

Gindin, L. G.
ON CONTROL OF CHEMICAL REACTIONS.
22 Nov 61 [14]p. 8 refs. JPRS: 11178.
Order from OTS or SLA $1.60 62-13529

Trans. of #Problemy Kibernetiki (USSR) 1961, no. 5, p. 97-103.

DESCRIPTORS: *Chemical reactions, *Mathematical prediction, *Computers, *Cybernetics, Reaction kinetics.

The design of any particular control device begins, with the algorithmic description of the functioning of this device, after which the problem of the material realization of this algorithm arises. When the control of the process is handed over to the computer, it is necessary to write the algorithms in the computer code and to program the algorithm. The most important problem of chemical cybernetics is the development of principles of algorithmization of chemical processes, more accurately principles of algorithmization of the control of these processes, the construction of logical schemes which express, in terms of a certain signal code, the mechanism of chemical processes, their kinetic data & their technology, and the development of principles of synthesis of "chemical" algorithms. This problem, in final analysis, reduces to the problem of translation, as it were, of a chemical "text" from the language of chemical formulas and equations to the language of algebra and mathematical logic. Since, however, the algorithmization of the chemical reaction presupposes a knowledge of its mechanism and kinetics, the chemical cybernetics merges with chemical kinetics. (Extract)

Gol'dfel'd, Yu. M. and Kobozev, N. I.
EXPERIMENTEEL ONDERZOEK VAN DE ROL DER WISSELWERKINGEN BIJ HET ADSORPTIEPROCES (Experimental Study of the Role of the Action of Forces in the Adsorption Process) tr. by G. J. M. Fritschy. 43p. MTWL: 225. (text in Dutch).
Order from OTS or ETC $2.71 61-17798

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1941, v. 15, p. 257-295.

DESCRIPTORS: *Adsorption, *Reaction kinetics, Copper, Iron.

Grinevich, V. M.
ONDERZOEKINGEN BETREFFENDE DE ZINK-CHROOM-KATALYSATOR VOOR DE METHANOLSYNTHESE (Zinc-Chromium-catalysts for the Synthesis of Methanol) tr. by G. J. M. Fritschy. 10p. 3 refs. MTWL: 230. (text in Dutch).
Order from OTS or ETC $1.55 61-17803

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1945, v. 18, p. 90-96.

DESCRIPTORS: *Methanols, Synthesis, *Catalysts, Zinc, Chromium, Alloys.

Ipatov, P. G.
FLAME PROPAGATION OVER A LIQUID SURFACE.
15 Jan 62 [9]p. 3 refs. FTD-TT-61-128. AD-270 791.
Order from OTS or SLA $1.10 62-15810

Unedited rough draft trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1960, v. 3, no. 12, p. 49-52.

DESCRIPTORS: Liquids, Acetones, Ethanols, Benzene, Toluenes, Surfaces, Ignition, *Combustion, *Flame propagation, Flames.

The propagation of the flame over the surface of the liquid having a temperature below the flash point was studied for ethanol (flash point 10° C), butanol (34° C), isoamyl alcohol (40° C), and toluene (7° C). The experiments were carried out in the temperature range from 0° C to the flash point. (Author)

Ishkin, I. P. and Burbo, P. Z.
ARGON-VERDELING IN EEN ZUURSTOF-ARGON-SCHEIDINGSAPPARAAT (Distribution of Argon in an Oxygen-Argon-separating Apparatus) tr. by G. J. M. Fritschy. 11p. 30 refs. MTWL: 93. (text in Dutch).
Order from OTS or ETC $1.55 61-17758

Trans. of Zhurnal Tekhnicheskoi Fiziki (USSR) 1939, v. 9, p. 1677-1682.

DESCRIPTORS: *Oxygen, *Argon, Air, Liquids, Phase studies, Vapors.

Kamzolkin, V. P. and Avdeeva, A. V.
VERGIFTIGING VAN AMMONIAKKATALYSATORS DOOR ZWAVELWATERSTOF EN PHOSPHORWATERSTOF (Poisoning of Ammonia Catalysts by Hydrogen Sulfide and Phosphorus Hydride) tr. by G. J. M. Fritschy 10p. 2 refs. MTWL: 226. (text in Dutch).
Order from OTS or ETC $1.55 61-17799

Trans. of Zhurnal Khimicheskoi Promyshlennosti (USSR) 1933, v. 10, no. 7, p. 32-35.

DESCRIPTORS: *Ammonia, Synthesis, *Catalysts, Hydrogen compounds, Sulfides, Phosphorous compounds, Hydrides, *Poisoning.

Kaplan, S. I., Grishin, N. A., and Skvortsova, A. A.
OVER HET EVENWICHT IN OPLOSSINGEN. II. OVER DE KOOKPUNTEN BIJ ATMOSFERISCHEN DRUK EN OVER DE DAMPSAMENSTELLING VAN BINAIRE MENGSELS VAN DICHLOORAETHAAN MET AETHYLEENCHLOORHYDRINE EN VAN DICHLOORAETHAAN MET AETHYLEEN OXIDE (The Equilibrium in Solutions. II. Temperatures of Boiling at Atmospheric Pressure and Composition of Vapor of Binary Mixtures of: Dichloroethane-ethylene Chlorohydrin and Dichloroethane-ethylene Oxide) tr. by A. Bosch-Sukacz and G. J. M. Fritschy. 11p. 9 refs. MTWL: 102. (text in Dutch).
Order from OTS or ETC $1.85 61-17747

Trans. of Zhurnal Obshchei Khimii (USSR) 1937, v. 7, p. 538-544.

DESCRIPTORS: Phase studies, Boiling, Vapors, *Ethylenes, *Ethanes, Temperatures.

Kargin, V. A., Markova, G. S., and Kovaleva, V. P.
INVESTIGATION OF THE STRUCTURE AND PROPERTIES OF ETHYLENE AND PROPYLENE COPOLYMERS. [1961] 7p. (2 figs. omitted) 3 refs.
Order from OTS or SLA $1.10 62-10596

Trans. of [Vysokomolekulyarnye Soedineniya] (USSR) 1960, v. 2, no. 10, p. 1531-1534.

DESCRIPTORS: *Ethylenes, *Propenes, Mechanical properties, Molecular structure, *Polymers, Deformation, Crystals, Crystallization, Stresses.

Tests showed that with the increase of irregularity in the copolymer chains, the perfectness of crystalline regions is reduced. The diffraction picture of the crystalline regions is structurally similar to that of polyethylene or polypropylene. There are no intermediate structures or changes in the parameters that would suggest the arising of stresses in the crystals. The amount of CH_3 groups in the chain increases with increasing propylene content of the initial mixture which raises the relative absorption intensity of the 1372 cm^{-1} band in the copolymer spectra. Increase in irregularity of the ethylene propylene copolymer chain is accompanied by a fall in recrystallization stress.

Khinter, L. N., Golovina, E. S., and Sorokina, A. V.
THE EFFECT OF PREHEATING A BENZENE-AIR MIXTURE ON THE FLAME PROPAGATION VELOCITY. 6 Oct 61 [7]p. MCL-1348; AD-265 731.
Order from OTS or SLA $1.10 62-13053

Unedited rough draft trans. of Issledovaniya Protsessov Goreniya (USSR) 1958, no. 12, p. 78-80.

DESCRIPTORS: Velocity, *Flame propagation, Heating Mixtures, Benzene, Air, Turbulent flow, Laminar boundary layer, Combustion.

The flame propagation velocities increased with an increase in temperature, somewhat different for differen. ranges of concentrations. The velocities increased considerably in the region where the fuel was insufficient: the effect was weaker near the upper boundary of combustion.

Kiperman, S. and Temkin, M.
OVER DE KINETICA DER AMMONIAKONTLEDING OP KOPER (The Kinetics of the Decomposition of Ammonia on Copper) tr. by G. J. M. Fritschy. 9p. 10 refs. MTWL: 94. (text in Dutch).
Order from OTS or ETC $1.55 61-17759

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1946, v. 20, p. 461-465.

DESCRIPTORS: *Ammonia, *Decomposition, Copper, Catalysis.

Kismer, E. G.
HET ZWELLEN VAN KLEI (The Swelling up of Clay). 8p. 7 refs. MTWL: 68. (text in Dutch).
Order from OTS or ETC $1.55 61-17791

Trans. of Neftyanoe Khozyaistvo (USSR) 1947, v. 25, no. 12, p. 23-27.

DESCRIPTORS: *Clays, Colloids, Measurement, Liquids, *Adsorption.

Kondrat'eva, E. I. and Kondrat'ev, V. N.
KATALYTISCHE HERGROEPERING VAN ACTIEVE CENTRA, TOEGEPAST OP DE METING VAN HUN CONCENTRATIE IN DE REACTIEZONE (Catalytic Recombination of Active Centres, and Determining their Concentration in the Reaction Zone) tr. by G. J. M. Fritschy. 15p. 8 refs. MTWL: 78. (text in Dutch).
Order from OTS or ETC $1.85 61-17781

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1946, v. 20, p. 1239-1247.

DESCRIPTORS: *Hydrogen, Oxidation, *Flames, Thermocouples, Reaction kinetics.

Korshinov, I. A., Vertulina, L. N. and others.
THE POLAROGRAPHIC REDUCTION OF SEVERAL SANDWICH-STRUCTURED CHROMAROMATIC COMPOUNDS. [1961] 5p. 7 refs.
Order from OTS or SLA $1.10 61-20645

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 122, no. 6, p. 1029-1031

DESCRIPTORS: *Chromium compounds, Phenyl radicals, Tolyl radicals, Mesityl radicals, Iodides, Benzoyl radicals, Cumenes, Polarographic analysis, Friedel-crafts reactions, Reduction.

The introduction of alkyl or cyclohexyl as a substitute in an aromatic ring does not show a great influence on the size of the half-wave potential, which at the time of conversion from ditolyl to dimesityl is displaced only a little to the side of negative value, in comparison with iodide dibenzoyl. At the introduction of the aromatic substitute bisdiphenylchromium a sudden displacement of the potential results in the area of positive values.

Kots, Ya. M. and Zarinskii, V. A.
DIFFUSION THROUGH ION EXCHANGE MEMBRANES AND THEIR ELECTROCHEMICAL CHARACTERISTICS (Diffuziya Cherez Ionoobmennye Membrany i Ikh Elektrokhimicheskaya Kharakteristika) tr. by L. G. Robbins. Dec 61 [3]p. 5 refs.
AERDL T-1252. AD-267 916.
Order from OTS or SLA $1.10 62-13501

Trans. of #Zhurnal Fizicheskoi Khimii (USSR) 1961, v. 35, no. 5, p. 1102-1104.

DESCRIPTORS: Ions, *Diffusion, *Ion exchange, *Membranes, Electrodialysis, Conductivity.

We determined the diffusivities of certain cation exchanging membranes. The specific electroconductivity and the transport numbers decrease parallely with a decrease in the diffusion coefficients. (Author)

Kozhenova, K. T. and Kagan, M. Ya.
DE INVLOED VAN VERGIFTEN OP DE SNELHEID VAN HYDRERING VAN GEADSORBEERDE STIKSTOF. MET DISCUSSIE. (Influence of Poisons on the Rate of Hydrogenation of Adsorbed Nitrogen. With Discussion p. 11-15) tr. by G. J. M. Fritschy. 17p. 8 refs. MTWL: 74. (text in Dutch).
Order from OTS or ETC $1.85 61-17777

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1940, v. 14, p. 1250-1259.

DESCRIPTORS: Ammonia, Synthesis, *Iron catalysts, *Nitrogen, Adsorption, *Hydrogenation, Reaction kinetics.

Kudryavtseva, V. M. and Sinyapkina, G. I.
TEMPERATUURSTRALING VAN ZINK-OXYDE (Temperature Emission of Zinc Oxide) tr. by J. H. van Santen. 5p. 5 refs. MTWL: 185, (text in Dutch).
Order from OTS or ETC $1.40 61-17831

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 59, p. 1411-1414.

DESCRIPTORS: *Zinc compounds, *Oxides, Temperature, *Luminescence, Absorption, Heat transfer.

Kuhn, Werner.
SPONTANEOUS BREAKUP OF FLUID CYLINDERS INTO SMALL SPHERES. [1961] 30p. (4 figs. omitted) 3 refs.
Order from SLA $2.60 62-10594

Trans. of [Kolloid-Zeitschrift] (West Germany) 1953, v. 132, no. 2/3 [p. 84-99].

DESCRIPTORS: *Cylindrical bodies, *Fluids, *Spheres, Surface area, Mathematical analysis, Surface tension, Colloids, Particles, Friction.

It was shown that an elongated circular cylinder is in neutral equilibrium with respect to small expansions or contractions on the cylinder surface if the expanse of the expansion or contraction in the direction of the axis of the cylinder is greater than the radius of the cylinder, but is stable if the longitudinal expansion of the disturbances is smaller than the cylinder radius. (Author)

Kuz'minykh, I. N.
BIJDRAGE TOT DE THEORIE DER ABSORPTIE VAN STIKSTOFOXYDEN DOOR ZWAVELZUUR (Theory of Absorption of Nitrogen Oxides by Sulfuric Acid) tr. by G. J. M. Fritschy. 14p. 12 refs. MTWL: 83. (text in Dutch).
Order from OTS or ETC $1.85 61-17768

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1947, v. 20, p. 309-318.

DESCRIPTORS: *Sulfuric acid, *Nitrogen compounds, Oxides, Absorption.

Kuznetsov, M. D.
BEPALING VAN ABSORPTIESNELHEIDSCOEFFICIENTEN VOLGENS DE METHODE DER GELIJKVORMIGHEID (Determination of the Absorption-rate Coefficients by the Similitude Method) tr. by G.J.M.Fritschy. 14p. 11 refs.MTWL: 208. (text in Dutch).
Order from OTS or ETC $1.85 61-17807

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1948, v, 21, p. 48-57.

DESCRIPTORS: *Absorption, Diffusion, Liquids, Gases, *Reaction kinetics.

Levitskaya, E. and Pryannikov, K.
HET EVENWICHT VLOEISTOF-DAMP IN HET BINAIRE SYSTEEM WATERSOF-AETHAAN (The Equilibrium Liquid and Vapor in the Binary System of Hydrogen-ethane) tr. by A. Bosch-Sukacz and G. J. M. Fritschy. 11p. 11 refs. MTWL: 103. (text in Dutch).
Order from OTS or ETC $1.55 61-17748

Trans. of Zhurnal Tekhnicheskoi Fiziki (USSR) 1939, v. 9, p. 1849-1853.

DESCRIPTORS: *Hydrogen, *Ethanes, Liquids, Vapors, Phase studies.

Levitskaya, E. P.
ONDERZOEK VAN HET EVENWICHT VLOEISTOF-DAMP VAN HET TERNAIRE SYSTEEM AETHAAN-METHAAN-WATERSTOF (Equilibrium of Liquid-Gas of the Triple System: Ethane-Methane-Hydrogen) tr. by G. J. M. Fritschy. 16p. 9 refs. MTWL: 106. (text in Dutch).
Order from OTS or ETC $1.85 61-17751

Trans. of Zhurnal Tekhnicheskoi Fiziki (USSR) 1941, v. 11, p. 197-204.

DESCRIPTORS:*Hydrogen,*Ethanes,*Methanes, Phase studies, Liquids, Gases.

Mamedaliev, Yu. G.
ONTALKYLERING EN OVERPLAATSING VAN ALKYLGROEPEN IN TEGENWOORDIGHEID VAN NATUURLIJKE ALUMINOSILICATEN (Dealkylation and Migration of Alkyl Groups in the Presence of Natural Alumino-silicate Catalysts) 14p. 19 refs. MTWL: 88. (text in Dutch).
Order from OTS or ETC $1.85 61-17772

Trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1947, no. 2, p. 197-204.

DESCRIPTORS: *Aluminum compounds, *Silicates, Catalysts, *Alkyl radicals, Exchange reactions, Benzenes.

Markevich, K. Ya.
ABSORPTIE VAN KOOLMONOXYDE DOOR AMMONIAKALE KOPEROPLOSSINGEN (Absorption of Carbon Monoxide by Cuprous Ammonium Formate Solutions). tr. by G. J. M. Fritschy. 14p. 3 refs. MTWL: 66. (text in Dutch).
Order from OTS or ETC $1.85 61-17789

Trans. of Zhurnal Khimicheskoi Promyshlennosti (USSR) 1939, v. 16, no. 10, p. 31-35.

DESCRIPTORS: Ammonia, Coppercompounds, Solutions, *Carbon compounds, *Monoxides, Formates, *Absorption.

Masina, M. P.
GELIJKTIJDIGE HYDROGENERING EN DEHYDRATERING OVER GEMENGDE KATALYSATORS (Simultaneous Dehydrogenation and Dehydration over Mixed Catalysts) tr. by R.N.G. Zeegers and G. J. M. Fritschy. 16p. 19 refs. MTWL: 224. (text in Dutch).
Order from OTS or ETC $1.85 61-17797

Trans. of Zhurnal Obshchei Khimii (USSR) 1937, v. 7, p. 2128-2136.

DESCRIPTORS: *Catalysts, *Dehydration, *Dehydrogenation, Mixtures, Cyclohexanols, Methylradicals.

Mazyukevich, F. V.
ON THE (GAS-) EJECTING PROPERTIES OF THE SURFACES OF FLOWING LIQUID FILMS (Ob Ezhektiruyushchikh Svoistvakh Poverkhnosti Stekayushchei Zhidkostnoi Plenki) tr. by G. Fulford. Aug 60, 10p. 4 refs. [DSIR NLL] M 4292.
Order from OTS or SLA $1.10 62-13139

Unedited Trans. of Tekhnologicheskii Institut Kholodil'noi Promyshlennosti. Trudy (USSR) 1956, v. 11, p. 115-124.

DESCRIPTORS: *Gases, Ejection, Surfaces, *Liquids, Fluid flow, Velocity, Heat transfer, *Films.

The quantity of air ejected by the surface of a moving liquid is directly proportional to the surface of contact, and is determined by the velocity of the liquid at the outer surface, and also depends on heat transfer between the surface and the neighboring gas. The lifting forces caused during heat transfer have a considerable effect on the ejection of air at small throughputs of a flowing water film. Changing the viscosity of the flowing liquid does not have a marked effect on the ejection of gas. (Author)

Ovchinnikova, E. N. and Davtyan, O. K.
LOW-TEMPERATURE OXIDATION ON PLATINUM. Pt. 4 of A Study [Investigation] of the Mechanism of Oxidation, Hydrogenation, and Electrochemical Combustion on Solid Catalysts. 2 Jan 62 [6]p. 5 refs.
Order from OTS or SLA $1.10 62-10705

Trans. of #Zhur[nal] Fiz[icheskoi] Khim[ii] (USSR) 1961, v. 35, p. 1907-1910.

DESCRIPTORS: Sulfur compounds, Dioxides, *Platinum catalysts, Metal poisoning, *Oxidation, Temperature.

A study was made of the low-temperature oxidation of SO_2 on the surface of a Pt catalyst by methods previously developed (Zhur. Fiz. Khim. 35: 713, 1961) for studying this reaction on the surface of activated charcoal. It was shown that, on the surface of Pt black at 20°, oxidation of SO_2 takes place, with fixation of the oxidation product on the surface. In the oxidation of SO_2 on Pt black at 20°, catalyst poisoning takes place as a result of chemisorption of SO_2. The degree of catalyst poisoning is increased by contact with SO_2 without oxygen at temperatures of 20-100°. The observed characteristics of low-temperature poisoning of a Pt catalyst are in accordance with the idea that the actual catalytic stage of the reaction is the interaction of SO_2 molecules with oxidation chemisorbed at the active centers of the catalyst.

Panchenkov, G. M., Skoblo, V. A., and Zhorov, Yu. M.
DETERMINATION OF EFFECTIVE DIFFUSION COEFFICIENTS IN POROUS SORBENTS. [1962] 5p.
Order from ATS $7.60 ATS-80N51R

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zaved[enii]. Neft' i Gaz (USSR) 1961, v. 4, no. 1, p. 73-77.

DESCRIPTORS: *Absorbents, *Porous materials, Diffusion.

Pospekhov, D. A.
HET OPSPOREN VAN KATALYSATORS VOOR DE SYNTHESE VAN METHANOL UIT KOOLMONOXYDE EN WATERSTOF (Choice of Catalysts for the Synthesis of Methanol from Carbon-Monoxide and Hydrogen) tr. by G. J. M. Fritschy. 7p. 44 refs. MTWL: 80. (text in Dutch).
Order from OTS or ETC $1.55 61-17783

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1947, v. 20, p. 769-772.

DESCRIPTORS: *Methanols, Carbon compounds, Monoxides, Hydrogen, Synthesis, *Catalysts.

Pospekhov, D. A.
OVER DE STABILITEIT VAN METAALCARBONYLEN (The Stability of Metal Carbonyls). 6p. 19 refs. MTWL: 91. (text in Dutch).
Order from OTS or ETC $1.55 61-17756

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1947, v. 21, no. 1, p. 11-13.

DESCRIPTORS: *Metallic compounds, *Carbonyl radicals, Stability.

Pozin, M. E.
DE THEORIE DER CHEMIESORPTIE (Theory of Chemical Absorption) tr. by G. J. M. Fritschy and P. J. Hoftijzer. 17p. 7 refs. MTWL: 95. (text in Dutch
Order from OTS or ETC $1.85 61-17760

Partial trans. of Zhurnal Prikladnoi Khimii (USSR) 1946, v. 19, p. 1201-1213, p. 1319-1324 and 1947, v. 20, p. 205-218.
DESCRIPTORS: Chemical reactions, *Absorption, *Towers, Theory.

Pshezhetskii, S. Ya.
KINETISCHE OVERGANGSTOESTANDEN BIJ KATALYTISCHE REACTIES OP POREUZE KATALYSATORS (Transitional Kinetic States of Catalytic Reactions on Porous Catalysts) tr. by G. J. M. Fritschy. 10p. 6 refs. MTWL: 209. (text in Dutch).
Order from OTS or ETC $1.55 61-17808

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1947, v. 21, p. 1019-1025.

DESCRIPTORS: *Porous materials, *Catalysis, Diffusion, Reaction kinetics.

Rakovskii, E. V. and Kamneva, A. I.
DE WINNING VAN ZWAVELKOOLSTOF UIT ZWAVELWATERSTOF EN KOOLWATERSTOFFEN. I. DE REACTIE. (Preparation of Carbon Disulfide from Hydrogen Sulfide and Hydrocarbons. I. The Reaction.) tr. by C. van der Hoeven and C. J. M. Fritschy. 10p. 11 refs. MTWL: 104. (text in Dutch).
Order from OTS or ETC $1.55 61-17749

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1940, v. 13, p. 1436-1441.

DESCRIPTORS: Hydrocarbons, Hydrogen compounds, Sulfides, *Carbon compounds, *Sulfides, Preparation.

Razubaev, G. A. and Ol'dekop, Yu. A.
PHOTOCHEMISCHE REACTIES VAN KWIK-ORGANISCHE VERBINDINGEN IN OPLOSSING (Photochemical Reactions of Mercury Organic Compounds in Solution) tr. by J. H. van Santen. 7p. MTWL: 204 (text in Dutch
Order from OTS or ETC $1.55 61-17813

Trans. of Akademiya Nauk SSSR. Doklady, 1949, v. 64, p. 77-80.

DESCRIPTORS: Organic compounds, Solutions, *Mercury compounds, *Photochemical reactions.

Razuvaev, G. A., Latyaeva, V. N., and Brilkina, T. G.
HOMOLITIC REACTIONS IN THE LIQUID PHASE. 29 Nov 61 [8]p. JPRS: 11376.
Order from OTS or SLA $1.10 62-13640

Trans. of Akademiya Nauk SSSR. Vestnik, 1961, [v. 31] no. 4, p. 124-127.

DESCRIPTORS: *Liquids, *Phase studies, *Free radicals, Solutions, *Reaction kinetics, Metalorganic compounds, Stereochemistry.

Topics are noted of papers that were presented at the first symposium on homolitic reactions in the liquid phase, which took place from 7 to 10 December 1960 in Gorkiy and Dzerzhinsk. Some of the reports are briefly described.

Reitlinger, S. A.
PERMEABILITY TO GASES AND THE MICROSTRUCTURE OF HIGH POLYMER COMPOUNDS. [1961] 5p. 13 refs.
Order from OTS or SLA $1.10 62-10848

[Condensed] trans. of Zhurnal Obshchei Khimii (USSR) 1944, v. 14, no. 6, p. 420-427.
A partial trans. (p. 420-423) is available from LC or SLA mi$1.80, ph$1.80 as 59-15848 [1959] 6p.

DESCRIPTORS: *Polymers, Microstructure, *Gas diffusion, Permeability.

Rode, T. V. and Balandin, A. A.
PHYSISCH-CHEMISCH ONDERZOEK VAN SILICAGEL KATALYSATOREN (A Physicochemical Study of Silica gel Catalysts) 18p. 29 refs. MTWL: 90. (text in Dutch)
Order from OTS or ETC $1.85 61-17775

Trans. of Acta Physicochimica U.R.S. S., 1946, v. 21, p. 853-868.

DESCRIPTORS: *Silicates, Gels, *Catalysts.

Roginskii, S. Z. and Todes, O. M.
KINETICA VAN KATALYTISCHE REACTIES IN STROMING (Kinetics of Catalytic Reactions in a Flow System) 11p. 8 refs. MTWL: 89. (text in Dutch).
Order from OTS or ETC $1.55 61-17773

Trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, ~~1946~~, 1946, p. 475-481.

DESCRIPTORS: *Catalysis, Gas flow, Catalysts, *Poisoning, Reaction kinetics.

Rusov, M. T. and Roiter, V. A.
BIJDRAGE TOT DE KINETICA VAN DE KATALYTISCHE AMMONIAKSYNTHESE (Kinetics of the Catalytic Synthesis of Ammonia) tr. by S. Kruyer. 14p. 4 refs. MTWL: 73. (text in Dutch).
Order from OTS or ETC $1.85 61-17776

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1938, v. 11, p. 390-399.

DESCRIPTORS: *Ammonia, *Synthesis, Catalysis, Reaction kinetics.

Shabalin, K. N., Krylov, S. F., and Oborin, V. I.
DE ABSORPTIESNELHEID IN GASBELWASSERS (Rate of Absorption of Gases under Conditions of Bubbling) tr. by G. J. M. Fritschy and P. J. Hoftijzer. 7p. MTWL: 120. (text in Dutch).
Order from OTS or ETC $1.55 61-17745

Trans. of Zhurnal Khimicheskoi Promyshlennosti (USSR) 1939, v. 16, no. 1, p. 10-14.

DESCRIPTORS: *Gases, Bubbles, Liquids, *Absorption.

Shneerson, A. L. and Leibush, A. G.
ABSORPTION OF CARBON DIOXIDE BY ETHANOLAMINES. I. RATE OF ABSORPTION OF CARBON DIOXIDE IN SOLUTIONS OF MONO- DI- AND TRIETHANOLAMINES. 23p. 17 refs. MTWL: 171.
Order from OTS or ETC $1.91 61-17837

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1946, v. 19, no. 9, p. 869-880.

DESCRIPTORS: *Carbondioxide, Ethanols, *Amines, Solutions, Absorption.

Tatievskaya, E. P. and Chufarov, G. I.
ONDERZOEK NAAR DE KINETICA VAN DE REDUCTIE DISSOCIATIE VAN METAALOXYDEN) Kinetics of the Reduction and Dissociation of Metal Oxides) 14p. 19 refs. MTWL: 87. (text in Dutch).
Order from OTS or ETC $1.85 61-17771

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1946, p. 1005-1014.

DESCRIPTORS: *Metals, *Oxides, Reduction, Decomposition.

Telegin, V. G. and Sidorov, N. V.
TOEPASSING VAN KUNSTMATIG MAGNETIET ALS GRONDSTOF VOOR DE BEREIDING VAN DE AMMONIAK-KATALYSATOR DOOR ELECTROSMELTEN (Utilization of Artificial Magnetite as a Raw Material for the Preparation of the Catalyst for Ammonia Synthesis) tr. by A. Bosch-Sukacz and G. J. M. Fritschy. 12p. 9 refs. MTWL: 96. (text in Dutch).
Order from OTS or ETC $1.85 61-17761

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1938, v. 11, p. 1064-1070.

DESCRIPTORS: *Ammonia, Synthesis, Catalysts, *Magnetite.

Temkin, M. I.
HET ADSORPTIE-EVENWICHT EN DE KINETICA VAN PROCESSEN OP HETEROGENE OPPERVLAKKEN EN BIJ WERKING VAN DE GEADSORBEERDE MOLECULEN OP ELKAAR (The Adsorption Equilibrium and the Kinetics of Processes on Nonhomogeneous Surfaces and in the Interaction between Adsorbed Molecules) tr. by G. J. M. Fritschy. 46p. 13 refs. MTWL: 77. (text in Dutch).
Order from OTS or ETC $2.77 61-17780

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1941, v. 15, p. 296-331.

DESCRIPTORS: *Solids, Surfaces, *Adsorption, Chemical equilibrium, Reaction kinetics.

Temkin, M. I. and Kiperman, S. L.
OVER DE KINETICA DER AMMONIAKSYNTHESE EN -ONTLEDING OP VERSCHILLENDE KATALYSATOREN (The Kinetics of Synthesis and -decomposition of Ammonia on Various Catalysts) tr. by G. J. M. Fritschy. 35p. 57 refs. MTWL: 82 (text in Dutch).
Order from OTS or ETC $2.55 61-17767

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1947, v. 21, p. 927-952.

DESCRIPTORS: *Ammonia, Synthesis, Decomposition, *Iron catalysts.

Todes, O. M. and Bondareva, A. K.
BIJDRAGE TOT DE THEORIE VAN DE ADSORPTIE-EVENWICHTEN AAN HETEROGENE OPPERVLAKKEN (Theory of the Adsorption Equilibria of Nonhomogeneous Surfaces) 25p. 23 refs. MTWL: 198. (text in Dutch).
Order from OTS or ETC $1.95 61-17822

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1948, v. 21, p. 693-707.

DESCRIPTORS: *Adsorption, Surfaces, Chemical equilibrium, Reaction kinetics.

Tolstoi, N. A. and Teofilov, P. P.
DECAY VAN DE LUMINESCENTIE VAN GLAZEN EN URANYLZOUTEN (Extinction of Luminescence of Glasses and of Uranyl Salts) tr. by J. H. van Santen. 6p. 3 refs. MTWL: 181. (text in Dutch).
Order from OTS or ETC $1.55 61-17827

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 59, p. 235-238.

DESCRIPTORS: *Uranium compounds, Salts, *Glass, *Luminescence.

Torocheshnikov, N. S. and Levius, L. A.
HET EVENWICHT VLOEISTOF-DAMP IN HET SYSTEEM STIKSTOF-METHAAN (The Equilibrium Liquid-Vapor in the System Nitrogen-Methane) tr. by A. Bosch-Sukacz and G. J. M. Fritschy. 12p. 8 refs. MTWL: 100. (text in Dutch).
Order from OTS or ETC $1.55 61-17765

Trans. of Zhurnal Khimicheskoi Promyshlennosti (USSR) 1939, v. 16, p. 19-22.

DESCRIPTORS: *Nitrogen, *Methanes, Liquids, Vapors, Phase studies.

Torochesnikov, N. S. and Ershova, V. A.
VERHOGING VAN HET RENDEMENT VAN DE ARGON WINNING UIT LUCHT (Increasing the Coefficient of Removal of Argon from Air) tr. by G. J. M. Fritschy. 10p. 7 refs. MTWL: 110. (text in Dutch).
Order from OTS or ETC $1.55 61-17755

Trans. of Zhurnal Khimicheskoi Promyshlennosti (USSR) 1940, v. 17, no. 2, p. 30-33.

DESCRIPTORS: * Argon, Air, Phase studies.

Tsiklis, D. S.
RESEARCH UNDER HIGH PRESSURES. [1961] 15p. 138 refs.
Order from OTS or SLA $1.60 62-10830

[Condensed] trans. of Uspekhi Khimii (USSR) 1945, v. 14, no. 6, p. 476-500.

DESCRIPTORS: *High pressure research, Gases, Liquids, Solubility, Solids, Surface tension, Chemical reactions, Polymerization.

Tsukhanova, O. A.
REDUCTIE VAN KOOLDIOXYDE DOOR DE KOOLSTOF LANGS DE WANDEN VAN EEN KOOLSTOFKANAAL (Reduction of Carbon Dioxide by Carbon along the Walls of a Carbon Channel) tr. by G. J. M. Fritschy. 11p. 13 refs. MTWL-229 (text in Dutch).
Order from OTS or ETC $1.55 61-17802

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1947, v. 21, p. 653-658.

DESCRIPTORS: *Carbon dioxide, *Reduction, Carbon, Pipes.

Vasil'ev, V. P.
THE THERMODYNAMICS OF AQUA-COMPLEXES (K Termodinamike Akvakompleksov). Dec 61 [7]p. 11 refs. RTS 1970.
Order from OTS or SLA $1.10 62-13742

Trans. of mono. Termodinamika i Stroenie Rastvorov, Trudy Soveshchaniya 1958, Moscow, 1959, p. 140-144.

DESCRIPTORS: *Cadmium, Cadmium compounds, Nitrates, Alcohols, Water, Mixtures, *Complex ions, Production, Thermodynamics, Thermochemistry.

Thermochemical measurements were made to obtain information of the dissociation of cadmium aqua-complexes. Determinations were made of the heat of dilution in water of a solution of alcohol and an alcohol solution of cadmium nitrate, and the heat of dilution of an alcoholic solution of cadmium nitrate in an alcohol-water mixture of the same concentration.

Vergunas, F. I. and Gavrilov, F. F.
AFHANKELIJKHEID VAN HET RELATIEVE QUANTUMRENDEMENT DER LUMINESCENTIE VAN ZnO VAN DE GOLFLENGTE WAARMEDE WORDT GEEXCITEERD (Dependence of the Relative Quantum Efficiency of the Luminescence of Zinc Oxide on the Exciting Wave Length) tr. by J. H. Van Santen. 5p. 5 refs. MTWL: 187. (text in Dutch).
Order from OTS or ETC $1.40 61-17833

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 59, p. 1273-1275.

DESCRIPTORS: *Zinc compounds, *Oxides, *Luminescence, Excitation, Electromagnetic waves.

Vilesov, F. I.
PHOTOIONIZATION OF THE VAPOR OF ORGANIC COMPOUNDS IN THE VACUUM ULTRAVIOLET REGION. [1962] 6p.
Order from ATS $8.95 ATS-23P59R

Trans. of #Zhur[nal] Fiz[icheskoi] Khim[ii] (USSR) 1961, v. 35, no. 9, p. 2010-2015.

DESCRIPTORS: *Organic compounds, *Vapors, Gas ionization, Photochemistry, Vacuum apparatus, Ultraviolet radiation.

Volova, L. M.
HET ONDERZOEK VAN HET EVENWICHT DER COEXISTERENDE VLOEISTOF- EN GAS-PHASEN IN HET BINAIRE MENGSEL METHAAN-AETHYLEEN (The Equilibrium of the Coexisting Liquid and Gas Phases in the Binairy System Methane-Ethene) tr. by A. Bosch-Sukacz and G. J. M. Fritschy. 14p. 19 refs. MTWL: 99. (text in Dutch).
Order from OTS or ETC $1.85 61-17764

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1940, v. 14, p. 268-276.

DESCRIPTORS: *Methanes, *Ethylenes, Liquids, Gases, Phase studies.

Vorob'ev, N. K. and Titova, G. F.
THE KINETICS OF MENSHUTKIN REACTIONS IN NON-AQUEOUS SOLVENTS (K Kinetike Reaktsii Tipa Reaktsii Menshutkina v Nevodnykh Rastvoritelyakh). Jan 62 [10]p. RTS 2020.
Order from OTS or SLA $1.10 62-15391

Trans. of Iz[vestiya] V[ysshikh] U[chebnykh] Z[avedenii]. Khim[iya] i Khim[icheskaya] Tekhnol[ogiya] 1958, no. 2, p. 17-24.

DESCRIPTORS: *Reaction kinetics, *Solutions, Phenols, Benzenes, Reagents.

A mechanism is proposed for reactions of the Menshutkin type, capable of explaining qualitatively a number of regularities observed in studying chemical processes in solutions. To confirm one of the predictions of the proposed mechanism a study was made of the rate of reaction between pyridine or dimethylaniline and methyl bromide, in pure benzene and benzene with phenol additions, at three temperatures. It was established that the reaction rate is increased by adding phenol to the benzene. The variations in activation energy observed on adding phenol to the benzene cannot be explained on the basis of the mechanism proposed by Swain and Eddy (J. Am. Chem. Soc. 70: 2989, 1948). (Author)

Vulis, L. A.
BEREKENING VAN DE ABSOLUTE REACTIESNELHEID BIJ DE VERBRANDING VAN KOOL (Calculation of the Absolute Rate of Combustion of Carbon) tr. by G. J. M. Fritschy. 10p. 15 refs. MTWL: 109. (text in Dutch).
Order from OTS or ETC $1.55 61-17754

Trans. of Zhurnal Tekhnicheskoi Fiziki (USSR) 1946, v. 16, p. 83-88.

DESCRIPTORS: *Carbon, *Combustion, Oxygen, Chemical reactions.

Zhabrova, G. M.
MEETING ON METHODS OF INVESTIGATION OF CATALYSTS. [1961] 3p. 1 ref.
Order from OTS or SLA $1.10 62-10828

[Condensed] trans. of Uspekhi Khimii (USSR) 1945, v. 14, no. 3, p. 255-258.

DESCRIPTORS: *Catalysts, Electron microscopy, Asbestos fibers, Electrochemistry, Conferences.

Zhavoronkov, N. M.
PARTIELE DAMPDRUKKEN VAN NH_3, CO_2 en H_2O BOVEN KOPER-AMMONIAKOPLOSSINGEN (Partial Pressure of Ammonia, Carbon Dioxide and Water over Copper-Ammonium Solutions) tr. by G. J. M. Fritschy 7p. 1 ref. MTWL: 67. (text in Dutch).
Order from OTS or ETC $1.55 61-17790

Trans. of Zhurnal Khimicheskoi Promyshlennosti (USSR) 1939, v. 16, no. 10, p. 36-37.

DESCRIPTORS: *Ammonia, Copper, *Solutions, Carbon dioxide, Vapors, Pressure.

Zhukov, I. I.
ELECTROKINETISCHE VERSCHIJNSELEN MET BETREKKING TOT DE ELECTRODIALYSE. (Electrokinetic Phenomena According to the Electrodialysis) 35p. 34 refs. MTWL: 173. (text in Dutch).
Order from OTS or ETC $2.55 61-17839

Trans. of Uspekhi Khimii (USSR) 1943, v. 12, no. 4, p. 265-286.

DESCRIPTORS: *Electrodialysis, Reaction kinetics.

EARTH SCIENCES

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: GEOPHYSICS, 1961, NOS. 1 AND 3-6. 1 Mar 62 [61]p. JPRS: 12748.
Order from OTS or SLA $6.60 62-23340

Trans. of selected abstracts from Referativnyi Zhurnal. Geofizika (USSR) 1961, nos. 1 and 3-6.

DESCRIPTORS: *Geophysics, Literature, Abstracting, *China, Magnetic susceptibility, Earthquakes, Meteorology, Agriculture, Weather forecasting, Soils, Freezing, Temperature, Measurement, Hydrology, Floods, Erosion, Inland waterways, Solar flares, Magnetic storms, Humidity, Atmosphere, Turbulence, Probability, Lighting, Spectrographic analysis, Sand, Motion, Wind, Transport properties, Mathematical prediction, Wheat, Rusts, Diseases, Glaciers, Mountains, Cotton, Rice, Growth, Production, Precipitation, Planetary atmospheres.

THE GENERAL ASSEMBLY OF THE HUNGARIAN HYDROLOGICAL SOCIETY (MAGYAR HIDROLOGIAI TARSASAG) IN 1961. 15 Jan 62 [14]p. JPRS: 11968.
Order from OTS or SLA $1.60 62-19578

Partial trans. (some parts summarized) of Hidrologiai Kozlony (Hungary) 1961, v. 41, no. 4, p. 356-360.

DESCRIPTORS: Conferences, *Hydrology, *Hungary.

SOVIET SEISMOLOGY AND SEISMOMETRY: A PRELIMINARY BIBLIOGRAPHY, 1958-1960. 5 Sep 61 [81]p. Approx. 924 refs. AID rept. 61-135.
Order from OTS or SLA $8.10 61-28801

DESCRIPTORS: *Earthquakes, *Bibliography, Seismological stations, Seismic waves, Propagation, Seismographs, Conferences.

Contents:
Seismometry
Seismic stations
Physics of earthquakes
Elastic (seismic) waves
Propagation of waves
Mechanics of seismic phenomena
Interpreting seismic data
Physical methods of integrated study
Applied seismology
Engineering seismology
Scientific-research institutions
Conferences on seismology
Books, periodicals, maps.

Andreev, B. A.
FAY'S GRAVITATIONAL ANOMALIES AND ISOSTASY. 23 Oct 61 [7]p. 11 refs. JPRS: 10688.
Order from OTS or SLA $1.10 62-13262

Trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 139, no. 1, p. 91-93.

DESCRIPTORS: Earth, *Geophysics, Gravity, *Gravity anomalies, Pressure, Distribution.

The correlation dependence of $\Delta g_F - \Delta g_I$ on h was investigated, where Δg_F is Fay's anomaly, Δg_I is the isostatic anomaly, and h is the altitude of the observation point on the continent or the depth of the ocean under the observation point. The original figures were taken from the well-known resume of W. Heiskanen. The data used was produced by 2210 continental stations on the territories of N. America, Western Europe, Africa, and India, and by 596 ocean stations. The difference $\Delta g_F - \Delta g_I$ is in close correlation with h. If $h > 1.3$ kilometers for both continental and ocean stations this correlation is linear and is characterized by an intensive increase in the difference $\Delta g_F - \Delta g_I$ when the altitude of the continental station increases. The same difference diminishes less intensively as the ocean depth increases in the case of ocean stations. If the altitudes of the continental stations are $0 < h < 1.3$ kilometers the linear correlation is violated, and the mean difference $\Delta g_F - \Delta g_I$ has a small negative value for almost all this interval. If $h = 0$ the mean difference becomes positive so that in the range of altitudes from 0 to 500 meters there is a change of approximately 65 milligals. The mean difference $\Delta g_F - \Delta g_I$ has the largest positive readings at the highest altitudes of the relief (up to 275 milligals if $h = +4$ kilometers), and the minimal negative readings at the maximum ocean depth (up to -130 milligals if $h = -8$ kilometers).

Climatology and Meteorology

HYDROMETEOROLOGY. 5 Mar 62, 53p. 18 refs. JPRS: 12790.
Order from OTS $1.50 62-11596

Trans. of Tsentral'nyi Institut Prognozov. Trudy (USSR) 1960, v. 93, p. 3-24 and 65-79.

DESCRIPTORS: *Meteorology, *Hydrodynamics, Weather forecasting, Theory, Atmosphere, Stratification, Turbulence, Maps, Meteorological charts, Sea Breeze.

Contents:
Theory of long-range forecast allowing for the vertical stratification of the atmosphere and for the turbulent intermixing, by S. A. Mashkovich and Ya. M. Kheifets

Perfecting the methods of long-range forecast of absolute-topography maps according to a barotropic model, by Ya. M. Kheifets and I. A. Shishkova
Some results of hydrodynamic research of breezes, by I. G. Sitnikov.

MEASUREMENT OF AIR HUMIDITY AND WIND VELOCITY. 26 Dec 61 [18]p. 5 refs. JPRS: 11635.
Order from OTS or SLA $1.60 62-15231

Trans. of Glavnaya Geofizicheskaya Observatoriya, Leningrad. Trudy (USSR) 1960, no. 103 [165] p. 85-92.

DESCRIPTORS: *Air *Humidity, *Wind, Velocity, Measurement, Ultrasonics, Resistance thermometers.

Contents:
Measurement of the vertical component of wind velocity with ultrasonics, by N. P. Fateev
Measurement of air humidity with resistance thermometers, by E. F. Glazova

Amelin, A. G.
MISTS SERVE MAN. 20 Dec 61 [87]p. 15 refs. JPRS: 11753.
Order from OTS or SLA $8.10 62-15353

Trans. of mono. Tumany Sluzhat Cheloveku, Moscow, 1961.

DESCRIPTORS: *Fog, Clouds, Artificial precipitation, Vapors, Condensation, Scientific research.

This book examines the basic properties of mists, the conditions of their formation and prevention, and examples are given of the utilization of mists in various fields of science and technology. (Author)

Bell, Bela.
THE DEVELOPMENT OF AEROLOGY IN HUNGARY AND THE GYORGY MARCZELL AEROLOGICAL OBSERVATORY. 30 Nov 60 [15]p. (10 figs. omitted). JPRS: 6317.
Order from OTS or SLA $1.60 62-19416

Trans. of Fizikai Szemle (Hungary) 1960, v. 10, no. 6, p. 184-189.

DESCRIPTORS: *Upper atmosphere, Radiosondes, Meteorological data, Weather forecasting.

Koshelenko, I. V.
AN OUTLINE OF THE FORMATION OF LOW CLOUDS AND FOG OWING TO RADIATIONAL COOLING (Skema Obrazovaniya Nizkikh i Tumanov pod Vliyaniem Radiatsionnogo Okhlazhdeniya) tr. by Irene A. Donehoo. Nov 61 [10]p. 5 refs.
Order from OTS or SLA $1.10 62-13911

Trans. of Ukrainskii Nauchno-Issledovatel'skii [Gidro-Meteorologicheskii] Institut. Trudy (USSR) 1960, v. 21, p. 16-22.

DESCRIPTORS: *Clouds, *Fog, Weather forecasting, Moisture, Turbulence, Intensity, Cooling, *Air mass analysis, *Stratus clouds.

It is shown that in the absence of warm advection and moisture and with intensity of turbulence, which does not change with time, the formation of low cloudiness due to the influence of radiational cooling is possible. The radiational cooling of air from the earth's surface by means of turbulence propagates rapidly throughout the entire boundary layer. Over the upper limit of this layer, where the direct mechanical interaction of the underlying surface ceases, due to the decrease of the coefficient of turbulence, the heat and moisture exchange decreases, and a high temperature inversion developes, due to which the lower sub-inversional layer is isolated. The turbulent exchange leads to adiabatic stratification and the levelling off of humidity with height; therefore saturation at first most often occurs below the inversion, where low cloudiness forms, which descends to the ground under certain conditions. The different admixtures which are collected under an inversion and the occurrence of low cloudiness or fog here, lead to a considerable decrease of effective radiation by the earth's surface or to its increase at the upper limit of cloudiness or fog, which leads to a further strengthening of the high-level inversion and the preservation of low cloudiness.

Peterka, Vladimir.
BIOGRAPHY OF MIKULAS KONCEK, CZECHOSLOVAK METEOROLOGIST AND CLIMATOLOGIST (Clen Korespondent SVA Mikulas Koncek Sestdesiatnikom). 2 Mar 61 [5]p. JPRS: 7791.
Order from OTS or SLA $1.10 62-19440

Trans. of Geograficky Casopis (Czechoslovakia) 1960, v. 12, no. 3, p. 224-225.

DESCRIPTORS: *Meteorology, Climate.

Geodesy

DEVELOPMENT OF SURVEYING, CARTOGRAPHY AND PHOTOGRAMMETRY IN POLAND. 25 Oct 61 [44]p. (4 photos. omitted). JPRS: 10760.
Order from OTS or SLA $4.60 62-19512

Trans. of Przeglad Geodezyjny (Poland) 1960, v. 32, no. 12, p. 431-445 and 449-450.

DESCRIPTORS: *Mapping, *Aerial photography, Photography, *Geodesics, Geophysical prospecting, *Poland.

Contents:
Fifteen years of surveying in Poland, by Borys Szmielew
The tenth anniversary of the State Bureau of Photogrammetry, by Janusz Wyszynski
Activity of the state service of surveying and cartography from 1945-60, by Ryszard Herbst and others
Cartography in the central office of surveying, by Felicjan Piatkowski.

DEVELOPMENTS IN GEODESY AND CARTOGRAPHY
18 Jan 62 [6]p. JPRS: 12121
Order from OTS or SLA $1.10 62-15465

Trans. of #Geodeziya i Kartografiya (USSR) 1961, no. 4, p. 77-80.

DESCRIPTORS: *Geodesics, *Mapping, *Aerial photography, Photography, Conferences.

Authors, titles, and brief summaries are given of the 7 reports that were presented at a conference which took place on 8 to 10 May 1961 at Moscow.

Konshin, M. D., ed.
APPLIED METHODS FOR DETERMINING THE ELEMENTS OF OUTER ORIENTATION DURING FLIGHT.
23 Feb 62 [499]p. JPRS: 12628.
Order from OTS or SLA $23.50 62-19786

Trans. of Tsentral'nyi Nauchno-Issledovatel'skii Institut Geodezii, Aeros"emki i Kartografii. Trudy (USSR) 1959, v. 129, 259p.

DESCRIPTORS: *Flight instruments, *Aerial cameras, *Gyro stabilizers, *Radio altimeters, Height finding, Radio stations, Geodetic data, Aerial reconnaissance, Instrument flight, Aerial reconnaissance, Instrument flight, Aerial photographs, Mapping, Terrain.

Contents:
The aerial camera AFA-TE
Gyrostabilizing system N-55
Radio altimeter RVTD
Measurement of the differences in flight altitudes
Radiogeodetic stations
Preparation of aerial-survey equipment and its operation
Estimation of the precision of the gyrostabilizing system performance
Determination of the flight altitudes by the radio altimeter readings
Determination of the difference in flight altitudes by statoscope readings
Determination reference elevations of principal points
Determination of plane coordinates of the centers of projection by radiogeodetic methods

Niemczyk, Pawel.
DEVELOPMENT IN POLISH GEODESY (Trwaly Dorobek Polskiej Geodezji). 3 Jan 61 [5]p. JPRS: 7353.
Order from OTS or SLA $1.10 62-19296

Trans. of Przeglad Techniczny (Poland) 1960, no. 38, p. 6.

DESCRIPTORS: *Geodesics, *Poland.

Raum, Frigyes
INTERNATIONAL MEASURING AND INSTRUMENT CONFERENCE IN BUDAPEST (NO. 2) 26 JUNE - 1 JULY 61. 5 Feb 62 [5]p. JPRS: 12390.
Order from OTS or SLA $1.10 62-15929

Trans. of Geodezia es Kartografia (Hungary) 1961, v. 13, no. 4, p. 291-292.
Portions of this report will not reproduce well.

DESCRIPTORS: Measurement, *Instrumentation, *Conferences, Geodesics, Mapping, Hungary.

Raum, Frigyes.
ZEISS PHOTOGRAMMETRY COURSE IN BUDAPEST.
5 Feb 62 [5]p. JPRS: 12391.
Order from OTS or SLA $1.10 62-15928

Trans. of Geodezia es Kartografia (Hungary) 1961, v. 13, no. 4, p. 286-288.

Portions of this report will not reproduce well.

DESCRIPTORS: *Aerial photography, Mapping.

An outstanding photogrammetric event at the House of Engineering (Technika Haza) in June [1961] was the 22nd Zeiss Photogrammetry Course, which was held in cooperation with the Zeiss Works of Jena. The care fully prepared program of lectures acquainted the participants with the basic principles of photogrammetry, and with the surveying and computation methods that meet the requirements of the present level of photogrammetry. (Extracted)

Szabo, Bela.
SOME ACHIEVEMENTS OF THE DEPARTMENT OF PHOTOGRAMMETRY OF THE CARTOGRAPHIC ENTERPRISE OF HUNGARY (A Kartografiai Vallalat Fotogrammetriai Osztalyanak Nehany Eredmenye).
15 May 61 [9]p. JPRS: 9235.
Order from OTS or SLA $1.10 62-19446

Trans. of Geodezia es Kartografia (Hungary) 1960, v. 12, no. 4, p. 271-274.

DESCRIPTORS: *Mapping, *Aerial photography, Photography, Geodesics, *Hungary.

Tallian, Ferenc.
MAP REPRODUCTION IN HUNGARY (A Magyar Terkepsokszorositas). 15 May 61 [10]p. JPRS: 9234.
Order from OTS or SLA $1.10 62-19444

Trans. of Geodezia es Kartografia (Hungary) 1960, v. 12, no. 4, p. 252-255.

DESCRIPTORS: *Mapping, Maps, Reproduction, Printing, Lithography, *Hungary.

Viduev, N. T., Grzhibovskii, V. P., and Rakitov, D. I.
RADAR IN ENGINEERING EXPLORATIONS. 30 Nov 61 [124]p. 59 refs. MCL-1332, AD-268 074.
Order from OTS or SLA $10.10 62-15191

Unedited rough draft trans. of mono. Radiolokatsiya v Inzhenernykh Izyskaniyakh, Kiev, 1960, 96p.

DESCRIPTORS: *Radar, Radar stations, Phase measurement, *Aerial photography, *Mapping.

Contents:
Radar and the history of radiogeodesy
Radar stations and types of radiogeodetic systems
Pulse methods of radiogeodetic measurement
Phase methods of radiogeodetic measurements

Geography

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: GEOGRAPHY, 1961, NOS. 1-2. 19 Apr 62 [86]p. JPRS: 13521.
Order from OTS or SLA $8.10 62-23990

Trans. of selected abstracts from Referativnyi Zhurnal. Geografiya (USSR) 1961, nos. 1-2.

DESCRIPTORS: *Geography, Abstracting, Meteorology, Climatology, Hydrology, Oceanography, Economics, Soils, Erosion, *China.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: GEOGRAPHY, 1961, NO. 4. 20 Feb 62 [41]p. JPRS: 12587.
Order from OTS or SLA $4.60 62-19759

Trans. of selected abstracts from Referativnyi Zhurnal. Geografiya (USSR) 1961, no. 4.

DESCRIPTORS: *Geography, Literature, Abstracting, *China, Economics, Hydrology, Glaciers, Meteorology.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: GEOGRAPHY, 1961, NOS. 5-7. 27 Mar 62 [53]p. JPRS: 13187.
Order from OTS or SLA $5.60 62-23645

Trans. of selected abstracts from Referativnyi Zhurnal. Geografiya (USSR) 1961, nos. 5-7.

DESCRIPTORS: *Geography, Literature, Abstracting, *China, Economics, Soils, Meteorology, Climate, Coal, Production, Turbines, Paper industry, Textile industry, Power plants, Glaciers, Hydrology, Geology, Morphology.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: GEOGRAPHY, 1961, NO. 10. 27 Mar 62 [34]p. JPRS: 13186.
Order from OTS or SLA $3.60 62-23644

Trans. of selected abstracts from Referativnyi Zhurnal. Geografiya (USSR) 1961, no. 10.

DESCRIPTORS: *Geography, Literature, Abstracting, *China, Economics, Soils, Glaciers, Meteorology, Birds, Archaeology, Irrigation systems, Power plants, Tobacco, Growth.

INFORMATION ON THE ACTIVITIES OF THE SLOVAK GEOGRAPHICAL SOCIETY. 11 Dec 61 [21]p. JPRS: 11458.
Order from OTS or SLA $2.60 62-19676

Trans. of Geograficky Casopis (Czechoslovakia) 1961, v. 13, no. 2, p. 147-151.

DESCRIPTORS: *Geography, Caves, Scientific organizations.

Contents:
Report on the activity of the Slovak Geographical Society, 1960, by Jozefa Tarabkova
Report on the activity of the East-Slovak branch of the Slovak Geographical Society, in Presov, 1960, by Martin Mihaly
Establishment of the Speleological Branch of the Slovak Geographical Society in Liptovsky Mikulas, by Jozefa Tarabkova.

Kosinski, L.
POLISH REGIONAL INSTITUTES. 4 Dec 61 [11]p. JPRS: 11258.
Order from OTS or SLA $1.60 62-19480

Trans. of Czasopismo Geograficzne (Poland) 1961, v. 32, no. 1, p. 81-87.

DESCRIPTORS: *Geography, Scientific organizations, *Poland.

Kral, Jiri.
THE ROLE OF CZECHOSLOVAK MEDICAL GEOGRAPHY IN THE STUDY OF AIR, WATER AND SOIL POLLUTION. 10 Apr 61 [9]p. JPRS: 4522.
Order from OTS or SLA $1.10 62-19442

Trans. of excerpts from Geograficky Casopis (Czechoslovakia) 1960, v. 12, no. 4, p. 247-252.

DESCRIPTORS: *Czechoslovakia, Medicine, *Geography, Air, Water, Soils, Contamination, Economics, Public health.

Zavodny, Jan.
ESTABLISHMENT OF THE EAST SLOVAK BRANCH OF THE SLOVAK GEOGRAPHIC SOCIETY (Zalozenie Vychodoslovenskej Pobocky Slovenskej Zemepisnej Spolocnosti). 2 Mar 61 [7]p. JPRS: 7792.
Order from OTS or SLA $1.10 62-19443

Trans. of Geograficky Casopis (Czechoslovakia) 1960, v. 12, no. 3, p. 225-226.

DESCRIPTORS: *Geography, Scientific organizations, *Czechoslovakia.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: GEOLOGY, 1961, NO. 1. 9 Apr 62 [53]p. JPRS: 13396.
Order from OTS or SLA $5.60 62-23814

Trans. of selected abstracts from Referativnyi Zhurnal. Geologiya (USSR) 1961, no. 1.

DESCRIPTORS: *Geology, Literature, Abstracting, *China, Morphology, Geophysical prospecting, Bauxite, Deposits, Molybdenum, Apatite, Petroleum, Coal, Minerals, Mining engineering, Exploration, Alloys, Iron, Shafts.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: GEOLOGY, 1961, NOS. 4-5. 7 Feb 62 [79]p. JPRS: 12380.
Order from OTS or SLA $7.60 62-15940

Trans. of selected abstracts from Referativnyi Zhurnal, Geologiya (USSR) 1961, nos. 4-5.

DESCRIPTORS: *Geology, Abstracting, Paleoecology, Geochemistry, Mining engineering, Petrology, Minerals, Geophysical prospecting, Exploration, Hydrology, *China.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: GEOLOGY, 1961, NO. 6. 13 Feb 62 [40]p. JPRS: 12450.
Order from OTS or SLA $4.60 62-19160

Trans. of selected abstracts from Referativnyi Zhurnal. Geologiya (USSR) 1961, no. 6.

DESCRIPTORS: *Geology, Abstracting, Paleoecology, Geochemistry, Mining engineering, Petrology, Minerals, Geophysical prospecting, Exploration, Hydrology, *China.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: GEOLOGY, 1961, NOS. 7-8. 29 Mar 62 [39]p. JPRS: 13248.
Order from OTS or SLA $3.60 62-23656

Trans. of selected abstracts from Referativnyi Zhurnal. Geologiya (USSR) 1961, nos. 7-8.

DESCRIPTORS: *Geology, Literature, Abstracting, *China, Geological survey, Geochemistry, Paleoecology, Geophysical prospecting, Hydrology, Minerals, Civil engineering.

CAVES IN SOUTHEASTERN TURKMENISTAN AND IN THE IRKUTSKAYA OBLAST'. 6 Dec 61, 2p.
AID rept. 61-163. AD-269 787
Order from OTS or SLA $1.10 62-15413

Review of Vsesoyuznoe Geograficheskoe Obshchestvo. Izvestiya (USSR) 1961, v. 93, no. 5, p. 439-441 and Priroda (USSR) 1961 [v. 50] no. 11, p. 112.

DESCRIPTORS: *Caves, Exploration, Paleoecology, Geology, Storage.

Contents:
Ancient dwelling caves of the Takhta-Bazarskii Rayon, by A. G. Babaev and G. I. Amurskii
In the Balaganskaya Cave, by A. D. Ivanov.

HYDROGEOLOGY AND ENGINEERING GEOLOGY, 1959, NO. 5: SELECTED ARTICLES. 18 Oct 61 [36]p. JPRS: 10633.
Order from OTS or SLA $3.60 62-13020

Trans. of Shui Wen Ti Chih Kung Ch'eng Ti Chih (Chinese People's Republic) 1959, no. 5, p. 26-37 and 41.

DESCRIPTORS: *Geology, *Hydrology, *Engineering, Geological survey, Geophysical prospecting, Calcite, Periscopes, Boreholes, Clays, Soils, Chlorides, Ions, Sand, Well drilling, Water, Pumps.

Contents:
Work of core processing and description of limestone karst areas, by Chang Shao-tseng
Experiences in solving two concrete problems in hydrogeological exploration, by Ch'en Ying-lung
A discussion of some problems of determining the indraft water amount by electro-flash method in hydrogeological prospecting, by Li Shih-ch'i
A periscope that can look into a bore hole, by Chin Yu
Resistance to displacement of clayey soils in foundations with a sudden application of loads and a method of determining critical loading according to the plane of the column's displacement, by T'ung I'hsiang
Method of field determination of chloride ions in Sand beds in wells, by using the results to determine the limits of a stratigraphical area for water pumping.

LAW ON GEOLOGICAL EXPLORATION IN POLAND (NO. 303). 23 Feb 61 [13]p. JPRS: 4416.
Order from OTS or SLA $1.60 62-19431

Trans. of Dziennik Ustaw (Poland) 1960, no. 52, p. 500-504.

DESCRIPTORS: *Geology, *Geophysical prospecting, Minerals, Deposits, Political science, *Poland.

PROBLEMS OF MINERALOGY, GEOCHEMISTRY AND GENESIS OF RARE ELEMENTS DEPOSITS, tr. by C. de Leuchtenberg. Jan 61, 53p. 8 refs.
Order from OTS or SLA $5.60 61-15870

Trans. of [Akademiya Nauk SSSR. Institut Mineralogii, Geokhimii i Kristallokhimii Redkhikh Elementov. Trudy] 1959, no. 2, p. 211-242.

DESCRIPTORS: *Zirconium, *Hafnium, *Thallium, *Deposits, Minerals, Geochemistry, *Geology, Genetics.

Contents:
Genetic types and classification of zirconium and hafnium deposits, by I. P. Tikhonenko
Genetic types of endogenous thallium bearing deposits, by V. V. Ivanov.

Bobryshev, G. I.
NEW METHOD FOR THE PREPARATION OF RESERVOIR STRATA FOR HYDRAULIC FRACTURING. 25 Oct 61 [11]p. JPRS: 10767.
Order from OTS or SLA $1.60 62-13319

Trans. of Neftyanoe Khozyaistvo (USSR) 1961, v. 39, no. 3, p. 43-46.

DESCRIPTORS: Geology, *Hydraulic reservoirs, *Boreholes, *Liquid jets, *Sandblasting, Petroleum industry, Industrial equipment, *Well logging.

The principle of the method is that in the borehole in the interval of a stratum where hydraulic fracturing is to be carried out, a horizontal annular cut in the reservoir strata is made by means of a sand-blasting device. The sand-blasting device is lowered in the borehole and is held at the required depth by a special hydraulic anchor (packer), and a high pressure jet of liquid containing fine grained quartz sand is applied from the nozzle. The jet cuts through the casing, the cemented annular space and the walls of the borehole to a depth of over one meter.

Frost, A. V.
FUNCTION OF CLAYS IN FORMATION OF OIL IN THE EARTH'S CRUST. [1961] 8p. 34 refs.
Order from OTS or SLA $1.10 62-10831

[Condensed] trans. of Usp[ekhi] Khim[ii] (USSR) 1945, v. 14, no. 6, p. 501-509.

DESCRIPTORS: *Clays, *Oils, Earth, Hydrocarbons, Petroleum, Geology.

Kukharenko, A. A., Skrizhinskaya, V. I. and others.
GEOCHEMISTRY OF NIOBIUM AND TANTALUM IN ALKALINE ULTRABASIC ROCK COMPLEXES (K Geokhimii Niobiya i Tantala v Kompleksakh Shchelochno-ultraosnovnykh Porod). Dec 61 [34]p. 31 refs. RTS 1966.
Order from OTS or SLA $3.60 62-13741

Trans. of Vsesoyuznoe Mineralogicheskoe Obshchestvo Zapiski (USSR) 1961 [v. 90] no. 2, p. 172-192.

DESCRIPTORS: *Rock, *Minerals, Deposits, Complex compounds, *Alkaline earth compounds, *Niobium, *Tantalum, *Geochemistry, Chemistry.

The data presented on the type of distribution and modes of occurrence of Nb and Ta in rocks and minerals of the alkaline-ultrabasic massifs of the Kola peninsula enable some general conclusions to be drawn which are applicable to other analogous complexes. Niobium and tantalum are characteristic elements in platform complexes of alkaline-ultrabasic rocks. The average content of these elements in these complexes is greater by almost an order of magnitude than in granitoid rocks, and is comparable with the content of them in nephelinic syenites, with a somewhat smaller Nb:Ta ratio. In the initial stage of the formation of the massifs, Nb and Ta do not form independent minerals but are incorporated by endocryptic capture in rock-forming pyroxenes and concentrated in silicates and complex titanium oxides. The most important accumulators of Nb and Ta are perovskites and the sphenes of titaniferous granites which replace them (in alkaline rocks). The first fraction of the crystallising rocks show a relative deficiency of Nb, or a content corresponding to the average for the whole complex. Subsequent deposits in each series of rocks are enriched in Nb. In differentiated intrusions the relative concentration of this element increases in rocks of the marginal zones of the massif which are enriched in alkalies and solidified later.

Larionova, A. N.
HOW THE RELIEF OF OCEAN AND SEA BOTTOM IS FORMED: ATTEMPTS TO CLASSIFY ELEVATIONS AND DEPRESSIONS OF THE OCEAN BOTTOM. tr. by D. Ashworth. [1962] [51]p. (20 figs. omitted).
Order from OTS or SLA $5.60 62-23916

Trans. of mono. Traveling on the Bottom of the Sea, Leningrad, 1959, p. 20-70.

DESCRIPTORS: *Ocean bottom, *Geology, Morphology, Oceanography, Sedimentation, Ice, Underwater sound, Sound ranging, Coral reefs.

Mineralogy

Batalov, A. B.
ILVAITE IN THE SKARNS OF MINBULAK (Ilvait v Skarnakh Minbulaka) tr. by Ivan Mittin. 1958 [6]p. 5 refs.
Order from OTS or SLA $1.10 62-13102

Trans. of Vsesoyuznoe Mineralogicheskoe Obshchestvo. Zapiski (USSR) 1950, v. 79, no. 3, p. 224-225.

DESCRIPTORS: *Minerals, Chemical analysis, Grains (Metallurgy), Colors, Magnetite, Hardness, Specific gravity, *Ilvaite, Silicates.

Esikov, A. D., Beschastnova, G. S., and Yakovlev, G. N.
DOSAGE DU STRONTIUM DANS LES MINÉRAUX ET LES ROCHES PAR PHOTOMÉTRIE DE FLAMME (Opredelenie Strontsiya v Mineralakh i Porodakh Metodom Plamennoi Fotometrii). [1961] [24]p. (Russian text included) 9 refs. CEA Trans. no. R 1382 (text in French).
Order from OTS or SLA $2.60 61-28681

Trans. in French of Akad[emiya] Nauk SSSR. Izvest-[iya]. Ser[iya] Geol[ogicheskaya] 1959 [v. 24] no. 12, p. 69-75.

DESCRIPTORS: Measurement, *Strontium, *Minerals, Rock, Flames, *Spectrographic analysis, Photometers.

Dans le présent article on décrit une méthode rapide et précise de dosage du strontium dans les minéraux à l'aide d'un photomètre de flamme mis au point par les auteurs. Le spectre du strontium est émis dans la flamme d'un chalumeau à oxygène. Les mesures étaient effectuées avec la raie du strontium 4607, 3 Å. Pour diminuer le "bruit de fond" de la flamme on a utilisé un spectrographe de forte dispersion et pour minimiser les erreurs de mesure liées aux pertes de strontium lors du traitement chimique des échantillons on a utilisé un indicateur radioactif. Les mesures de masse étaient effectuées avec une précision de 5 à 6 %. (Author)

Ginzburg, I. V.
CONCERNING VARIATIONS OF MINERAL COMPOSITION IN CONTACT ZONE OF SPODUMENE PEGMATITES WITH BASIC ROCKS ON KOLA PENINSULA (O Variatsiyakh Sostava Mineralov v Zone Contakta Spodumenovykh Pegmatitov i Osnovykh Porod Kolskogo Poluostrova) tr. by W. John Cieslewicz. 15 July 60 [27]p. 4 refs.
Order from OTS or SLA $2.60 62-15740

Trans. of A[kademiya] N[auk] SSSR. Mineralog[icheskii] Muzei. Trudy, 1957, v. 8, p. 61-76.

DESCRIPTORS: *Rock, *Minerals, Crystallization, Geophysical prospecting, Geochemistry, Spectrographic analysis, *Pegmatites, Geology.

Lavrovich, N. S.
FLUORSPAR (FLUORITE) (Plavikovyi Shpat (Flyuorit)) [1961] [207]p. 93 refs. MCL-273; AD-266 475.
Order from OTS or SLA $14.00 62-13575

Trans. of Otsenka Mestorozhdenii pri Poiskakh i Razvedkakh (USSR) 1956, no. 16.

DESCRIPTORS: Textbooks, Mining engineering, *Minerals, *Exploration, *Fluorspar, *Processing, Physical properties, Chemical properties, Industry, Metallurgy, Ceramic materials, Glass, Cements, *Geology, Economics, *Bibliography.

Contents:
General characteristics of fluorspar
Origin and types of fluorspar deposits
Methods for fluorspar ores dressing
Fluorspar deposits in the USSR
Fluorspar deposits occurring abroad
Commercial fluorspar deposits
Geological prospecting
Preliminary geological explorations
Problems of large-scale surveying in commercial evaluation of fluorspar deposits
Thorough exploration
Assaying
Documentation
Estimation of reserves
Study of the hydrogeological conditions and the physical and mechanical properties of mineral rocks in fluorspar deposits
Basic technical and economic indicators for the evaluation of fluorspar deposits

Oceanography

OCEANOGRAPHY AND LIMNOLOGY, 1959, VOL. 2, NO. 3: SELECTED TRANSLATIONS. 3 Jan 62 [56]p. JPRS: 11859.
Order from OTS or SLA $5.60 62-15490

Trans. of Hai Yang Yü Hu Chao (Chinese People's Republic) 1959, v. 2, no. 3, p. 111-134 and 136-144.

DESCRIPTORS: *Oceanography, *Tides, Water waves, *Ocean currents, *Yellow Sea, Mathematical prediction, Numerical analysis, Differential equations.

Contents:
Questions concerning overall forecast of the tide flow, by Yu Fang-hu and Cheng I-fang
Calculations of numerical value of sea currents induced by wind within a semi-enclosed sea area, by Ho En-tien and others.

Petrova, N. A.
ON THE CHARACTER OF THE PHYTOPLANKTON OF THE YAKIMVARSKII GULF (LAKE LADOGA) (K Kharakteriskike Fitoplanktona Yakimvarskogo Zaliva Ladozhskogo Ozera) tr. by J. W. G. Lund. Feb 61 [8]p. 2 refs. [DSIR NLL] M. 3178
Order from OTS or SLA $1.10 61-28144

Trans. of Botanicheskii Zhurnal (USSR) [1959] v. 44, no. 9, p. 1311-1314.

DESCRIPTORS: *Marine biology, *Algae, Climate factors, Growth, Ecology, *Classification, Geography.

Observations on the phytoplankton of the Yakimvarskii Bay from 1956 to 1957 showed that the diatom algae always predominate both quantitatively and qualitatively. In the yearly cycle of the development of the phytoplankton are distinquished three maxima: at the end of the biological spring, at the beginning of the summer, and at the end of the summer. The data about the numbers of plankton algae characterise Yakimvarskii Bay as a water of the oligotrophic type.

Zhikova, A. I. and Fedosov, M. V.
THE SIGNIFICANCE OF THE MICROORGANISMS IN THE TRANSFORMATION OF ORGANIC MATTER FOUND IN THE UPPER LAYER OF THE BOTTOM SEDIMENTS OF THE SHALLOW SEA BASIN. 4 Jan 62 [17]p. 17 refs. JPRS: 11778.
Order from OTS or SLA $1.60 62-15450

Trans. of Okeanologiya (USSR) 1961, v. 1, no. 3, p. 450-455.

DESCRIPTORS: *Sea water, *Microorganisms, Sedimentation, Organic materials, Transformations, Ocean bottom.

Clayey slime from Taganrog Bay was analyzed with respect to the content of O_2, NO_2, NH_4, NO_3, and PO_4. The pH value and the total number of bacteria, as well as the quantity of microbe-ammonium-formers at the boundary of the soil and the water were determined. It was substantiated that the gas regime of a body of water and the quantity of biogenous matter in the water are determined by the activity of microflora at the boundary of the slime and the water. The processes of decomposition and regeneration of organic matter in shallow sea bodies of water occur with the most active participation of microorganisms.

Physics of the Atmosphere

THE EARTH'S RADIATION BELTS BASED ON DATA FROM THE SECOND SOVIET SPACESHIP. 19 Dec 61 [18]p. 11 refs. JPRS: 11579.
Order from OTS or SLA $1.60 62-15228

Trans. of Akademiya Nauk SSSR. Doklady [1961] v. 140, no. 4, p. 787-790 and no. 5, p. 1041-1044.

DESCRIPTORS: *Van Allen radiation belt, Cosmic rays, *Satellite vehicle research, Magnetic fields, Detection, Scintillation counters.

Contents:
Outer radiation belt of the earth at an altitude of 320 km, by S. N. Vernov and others
The detection of the inner radiation belt at an altitude of 320 km, in the region of the south Atlantic magnetic anomaly, by S. N. Vernov and others.

Sedunov, Yu. S.
THE DISSEMINATION OF ADMIXTURES FROM AN INSTANTANEOUS POINT SOURCE. 8 Nov 61 [11]p. 4 refs. JPRS: 10949.
Order from OTS or SLA $1.60 62-13441

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1961, v. 4, no. 1, p. 98-103.

DESCRIPTORS: *Mixtures, Distribution, *Atmosphere, *Turbulence, Wind, Velocity, *Diffusion, Aerosols, Sprays, Scattering, Fog, Clouds, Numerical analysis.

An analysis is made of the effect exerted by changes in the wind velocity with the altitude upon the character of the track (the term track is used to designate the distribution of the surface concentration of admixtures when $t \to \infty$). An approximate method for solving the equation of turbulent diffusion for the case when the turbulent diffusion coefficients and the settling rate of particles are constant, and when only the horizontal component of the wind velocity is present. A study is made of the effect exerted by a certain change in the horizontal velocity of wind according to the altitude upon the distribution of the surface concentration of an admixture. A criterion is derived, which makes it possible to perform an averaging of the wind velocity according to the altitude.

Tunitskii, N. N.
OVER DIFFUSIE-PROCESSEN BIJ NATUURLIJKE TURBULENTIE (Diffusion-processes under Conditions of Natural Turbulence) tr. by G. J. M. Fritschy. 8p. 9 refs. MTWL: 72. (text in Dutch).
Order from OTS or ETC $1.55 61-17825

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1946, v. 20, p. 1137-1141.

DESCRIPTORS: Air, Turbulent flow, Diffusion, *Atmosphere, *Turbulence.

ENGINEERING

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: MINING, 1961, NOS. 4-11. 7 Mar 62 [142]p. JPRS: 12854.
Order from OTS or SLA $11.00 62-23411

Trans. of selected abstracts from Referativnyi Zhurnal. Gornoe Delo (USSR) 1961, nos. 4-11.

DESCRIPTORS: *Mining engineering, Engineering, Literature, Abstracting, Economics, Minerals, Deposits, Petroleum, Coal, Production, Mines, *China

ENGINEERING (AERONAUTICAL, CIVIL, ELECTRICAL, MECHANICAL, NUCLEAR, PETROLEUM, AND STRUCTURAL) MACHINERY, AND EQUIPMENT. NO. 14. Series 4 of English Abstracts of Selected Articles from Soviet Bloc and Mainland China Technical Journals. Mar 62, 59p.
Order from OTS $18.00/year 61-11143-14
foreign $22.50/year

DESCRIPTORS: *Engineering, *Machines, Abstracting, Periodicals, Aeronautics, Civil engineering, Electrical engineering, Chemical engineering, Mechanical engineering, Nuclear physics, Petroleum.

Consists of abstracts in English.

REFERATIVNYI ZHURNAL. GORNOE DELO (USSR) 1961, NO. 3, ABSTRACTS 3A55-3C174, SELECTED TRANSLATIONS OF ABSTRACTS OF ARTICLES BY CHINESE AUTHORS PERTAINING TO COMMUNIST CHINA (Soviet Abstracts, Mining). 31 Jan 62 [39]p. JPRS: 12251.
Order from OTS or SLA $3.60 62-15775

Complete translations of the Russian-language abstracts of articles originally published in the Sino-Soviet bloc.

DESCRIPTORS: *Mining engineering, Engineering, Abstracting, Periodicals, Solids, *Minerals, Deposits, Economics, Technological intelligence, Safety.

Butusov, Ivan Vasil'evich.
AUTOMATIC CONTROL-MEASURING AND REGULATING INSTRUMENTS: PT. 1: FOREWORD, INTRODUCTION, CHAPS. 1-10. 19 Feb 62 [440]p. JPRS: 12559.
Order from OTS or SLA $22.25 62-19803

Trans. of mono. Avtomaticheskie Kontrol'no-Izmeritel'nye i Reguliruyushchie Pribory, Leningrad, 1961, p. 1-291.
Trans. of p. 3-10 is available from OTS $0.50 as 60-31758, JPRS-3887, 16 Sep 60, 6p.

DESCRIPTORS: Measurement, *Instrumentation, *Control systems, *Automatic, Manufacturing methods Automation, Computers, Control panels, Servomechanisms, Recording devices, Thermostats, Temperature control, Electronic circuits, Amplifiers, Electric motors, Power supplies, Pressure, Liquids, Gas flow, Vapors, Heat.

Contents:
Foreword
Introduction
Measuring circuits of automatic electronic instruments
Amplifiers and electric motors
Power supplies
Stabilizing, regulating, and recording devices
Automatic electronic instruments
Instruments for the measurement of temperature
Instruments for measurement of pressure and vacuum
Instruments for the measurement of liquid levels
Instruments for the measurement of flow of gases, vapors, and liquids
Instruments for the measurement of heat (heat meters).

Gurvich, A. M. and Prasolov, R. S.
SOME PROPERTIES OF ASH DEPOSITS ON SCREEN PIPES IN STEAM BOILER FURNACES (Nekotorye Svoistva Zolovykh Otlozhenii na Ekrannykh Trubakh Topok Parovykh Kotlov). [1961] [11]p. 8 refs.
Order from OTS or SLA $1.60 62-15293

Trans. of Teploenergetika (USSR) 1960 [v. 7] no. 7, p. 80-86.

DESCRIPTORS: *Boilers, *Steam, *Combustion chambers, *Coal, Thermal conductivity, Heat transfer, Particles, Deposits, Wire screens, Pipes.

A method was worked out and tested for studying deposits forming on screen pipes in steam boiler furnaces. The basic thermophysical properties of the outer deposits formed on combustion of Vorkuta coal were investigated. Thickness, granulometric composition, volumetric weight, thermal conductivity, as well as relationships between these properties and heat absorption by screen pipes, were determined. It was found that thin deposits substantially lower the heat absorption of screen pipes: a layer about 0.1 mm thick, by 15 to 20%; a layer 0.4 mm thick, by about 40%. The pipe-fouling layer had very low thermal conductivity. This explains the strong effect of outside pipe deposits on heat exchange. The inside layer (thickness 0.1-0.5 mm) consisted of alkali silicates which became condensed on the pipe surface. The predominant particle size ranged about 0.2 to 0.5 microns. The thermal conductivity of the layer was of the order of 0.015 to 0.025 kcal/m · hour · degree, which is less than the thermal conductivity of air. An important characteristic of this layer is that its pores are commensurate with the length of the mean free path of air molecules (flue gases). The stabilized deposit layer, whose thickness was equal to or exceeded 1 mm, consisted of relatively coarse particles. Its conductivity ranged 0.05-0.08 kcal/m·hour·degree. (Author)(See also 61-19698)

Sneck, Tenko.
ON THE CORROSION OF CONCRETE. [1961] 19p. 7 refs.
Order from SLA $1.60 62-10676

Trans. of Nordisk Betong (Sweden) 1957, v. 1, p. 117-127.

DESCRIPTORS: *Concrete, *Deterioration, *Corrosion, *Cements, Corrosive gases, Corrosive liquids, Carbon dioxide, Sulfur compounds, Dioxides, Water, Hydrogen ion concentration, Humic acids, Magnesium compounds, Sulfates, Sulfides, Soils, Earth, Erosion, Cold, Freezing

Deterioration of concrete may be caused by physical and/or chemical factors. The corrosion of concrete is dependent on the properties of the hardened cement, the quality of the concrete and the corrosivity of the surrounding medium. The influences of the carbon dioxide and sulphur dioxide of the atmosphere are briefly discussed. The properties of very pure, soft and hard waters, waters with a low pH-value and the action of waters containing aggressive carbon dioxide are reviewed. The effects of humic compounds, magnesium salts and sulphates or sulphides are also mentioned. The factors governing the underground corrosion of concrete are discussed with particular attention to the acidity of the soil, the content of exchangeable hydrogen, humic compounds and salts containing sulphur or magnesium. Some dangerous chemicals and especially corrosive environments are reviewed. Some factors influencing the corrosivity of waters and soils are given in a table. (Author)

NEWS OF THE INSTITUTES OF HIGHER LEARNING, INSTRUMENT MANUFACTURE, 1960, VOL. 3, NO. 5: SELECTED ARTICLES. 13 Nov 61 [51]p. 7 refs.
FTD-TT-61-42; AD-267 724
Order from OTS or SLA $5.60 62-15195

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Priborostroenie (USSR) 1960, v. 3, no. 5, p. 3-9, 44-62, 106-109.

DESCRIPTORS: *Optical systems, Spheres, Surfaces, Refraction, Optical images, *Motor starters, *Transformers, Alternating current, Gyro stabilizers, Inertial navigation, *Gyroscopes, Motion, Drift, *Compasses, Automatic, Flight instruments.

Contents:
The balancing process in AC polar-coordinate compensators, by A. M. Melik-Shakhnazarov
The effect of gyroscope drift on the motion of gyrostabilized platform with T = 84.4 min., by V. A. Karakashev
An automatic precision device for determining true course and latitude, by A. F. Khokhlov
The invariant for a meridional coma of a spherical surface of refraction, by M. M. Rusinov.

Zernov, I. A. and Konorov, L. A.
THEORETICAL BASES FOR THE TECHNOLOGY AND PROCESSES INVOLVED IN THE MANUFACTURE OF AIRCRAFT COMPONENTS. 6 Feb 62 [797]p. 772 refs. MCL-1336; AD-271 812
Order from OTS or SLA $31.00 62-19267

Trans. of mono. Teoreticheskie Osnovy Tekhnologii i Protsessy Izlotovleniya Detalei Samoletov, Moscow, 1960, 633p.

DESCRIPTORS: *Aircraft, Construction, *Aircraft industry, Technological intelligence, Production, Manufacturing methods, Costs, Labor, Automation, Castings, Sheets, Pipes, *Metals, Machining, Cutting, Heat treatment, Deformation, Airplane panels, Corrosion inhibition, Coatings, Dies, Aviation personnel, Aircraft materials.

The book discusses general problems involved in the technology of aircraft construction: methods of providing interchangeability, production methods of increasing labor productivity and reducing production costs, principles for the mechanization and automation of production processes, planning problems, and the standardization of production processes. There is an examination of the production processes involved in the manufacture of aircraft components made of stampings, castings, rolled products, sheets, profiles, and thin-walled tubes. The book is a text to be used in higher educational institutions of aviation and may also be useful for engineering and technical personnel within the aircraft industry. (Soviet publisher's note)

CHEMICAL INDUSTRY IN COMMUNIST CHINA: SELECTED ARTICLES. 25 Aug 61 [57]p. (1 fig. omitted). JPRS: 8783.
Order from OTS or SLA $5.60 62-23480

Trans. of Hua-hsüeh Kung-yeh (Chinese People's Republic) 1960, no. 4, p. 9-19, 22-34, 37-40.

DESCRIPTORS: *Chemical industry, Synthetic rubber, Production, Coal, Coke, Carbides, Sulfuric acid, Acetonitriles, Ammonia, Processing, Fertilizers, Blast furnaces, Calcium compounds, Magnesium, Phosphates.

Contents:
Experiences in experimental production of buna rubber in the Tsingtao chemical industry factory, by Ts'ai Po-fu
Brief introduction to plans for annual production of 50 tons of buna rubber, by Ho Ch'ing-o
State of technical development of foreign synthetic rubber industry, by Ts'ui Chien-kuo
Experiments in using anthracite in place of coke to produce carbide
Some innovations in sulfuric acid production, by Shen Tsu-ch'ao
The first "no man work section" - methyl cyanide work section, by Chu Wei-kang
Achieving mechanization and semi-mechanization by mass movement
Innovations in production technology in synthetic ammonia and ammonia processing in Chilin fertilizer plant
Some technical problems in utilizing native blast furnaces to produce calcium magnesium phosphate fertilizer.

Bag, A. A. and Egupov, T. P.
DETERGENTS FROM HIGH MOLECULAR PRIMARY ALCOHOLS. [1961] [3]p. 25 refs.
Order from OTS or SLA $1.10 62-10825

[Condensed] trans. of Uspekhi Khimii (USSR) 1945, v. 14, no. 1, p. 56-64.

DESCRIPTORS: *Detergents, Wetting agents, *Alcohols, Molecular structure, Catalysts.

Belopol'skii, A. P.
PHYSISCH-CHEMISCHE ONDERZOEKINGEN OVER HET AMMONIAK-SODA PROCES (Physico-Chemical Researches into the Ammonia-Soda Process) 14p. 7 refs. MTWL: 64. (text in Dutch).
Order from OTS or ETC $1.85 61-17787

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1946, v. 19, p. 1181-1188.

DESCRIPTORS: Ammonia, Sodium compounds, Carbonates, *Absorption, *Diffusion, Theory.

Blechta, F.
BY-PRODUCTS OF DDT MANUFACTURE AND THEIR UTILIZATION (Odpady Pri Vyrobe "DND" a Jejich Zpracovani). [1961] 7p.
Order from SLA $1.10 62-10672

Trans. of Chemicky Prumysl (Czechoslovakia) 1954, v. 4(29) no. 10, p. 381-383.

DESCRIPTORS: *DDT, Insecticides, Chemical industry, Benzenes, Chlorides, Hydrochloric acid, Sulfuric acid, Manufacturing methods.

Chernobaev, D. A.
HET VOLLEDIGE OXYDATIEVOLUME VAN HET ABSORPTIESYSTEEM BIJ DE BEREIDING VAN SALPETERZUUR (The Total Oxidation Space of the Absorption System in the Production of Nitric Acid) tr. by A. Bosch-Sukacz and G. J. M. Fritschy. 7p. MTWL: 117. (text in Dutch).
Order from OTS or ETC $1.55 61-17742

Trans. of Zhurnal Khimicheskoi Promyshlennosti (USSR) 1937, v. 14, p. 1603-1604.

DESCRIPTORS: *Nitric acid, Production, Nitrogen compounds, Oxides, Dioxides, Oxygen, Chemical equilibrium.

Chernozhunov, N. I.
INVESTIGATION OF THE OXIDIZABILITY OF MINERAL OILS. 15p. 7 refs. MTWL: 194.
Order from OTS or ETC $1.85 61-17818

Trans. of Neftyanoe Khozyaistvo (USSR) 1947, no.8, p. 45-50.

DESCRIPTORS: *Mineral oils, *Oxidation, Lubrication.

Gundortsev, I. V.
THE ORGANIZATION AND TECHNOLOGY OF WELL DRILLING OPERATIONS OF THE DRILLING TRUST OF THE AL'MAT'EVSK PETROLEUM INDUSTRY. 27 Oct 61 [15]p. JPRS: 10845.
Order from OTS or SLA $1.60 62-13408

Trans. of Neftyanoe Khozyaistvo (USSR) 1961, v. 39, no. 3, p. 16-23.

DESCRIPTORS: *Well drilling, *Petroleum industry, Boreholes, Drills.

Khmelevskii, V. I. and Postovskii, I. Ya.
OVER EEN METHODE VOOR HET ONDERZOEK EN DE ANALYSE VAN VERBINDINGEN UIT RUWE ANTHRACEEN EN ANDERE HOOGKOKENDE FRACTIES VAN STEENKOLENTEER (Method of Investigation and Analysis of Compounds of Crude Anthracene and other High-boiling Fractions of Coal Tar) tr. by G. J. M. Fritschy. 13p. 16 refs. MTWL: 85. (text in Dutch).
Order from OTS or ETC $1.85 61-17769

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1944, v. 17, p. 463-470.

DESCRIPTORS: *Coal tar, Anthracenes, Chemical analysis, Fractionation.

Kruglov, O. V.
REPORT ON THE OPERATIONS OF LISICHANSK PLANT "PODZEMGAZ" FROM 1954 TO 1956. 3 Oct 61 [36]p. MCL-1241; AD-265 699.
Order from OTS or SLA $3.60 62-13052

Unedited rough draft trans. of Podzemnaya Gazifikatsiya Ugl[ei] (USSR) 1957, no. 2, p. 31-38.

DESCRIPTORS: *Coal gas, Gases, Production, Technological intelligence, Economics, *Gas generating systems, Operation, Power plants.

Technological procedures for the working of coal beds of small thickness were perfected, the designs of underground gas generators were improved and researches of deadwork methods were continued.

Kuznetsov, L. A., Maidyuk, E. E., and others.
PRESENT CONDITION OF GAS SURVEYING AND THE PROSPECTS FOR ITS DEVELOPMENT. RESULTS OF THE SECOND SCIENTIFIC TECHNICAL CONFERENCE. 10p. 7 refs. MTWL: 172.
Order from OTS or ETC $1.55 61-17838

Trans. of Neftyanoe Khozyaistvo (USSR) 1947, no. 7, p. 8-12.

DESCRIPTORS: *Gases, *Geochemistry, Chemical analysis.

Marquinez, Jean-Pierre.
AIR EXPANDER REGULATOR FOR SELF-CONTAINED DIVING APPARATUS, tr. by J. R-P. 18 Dec 61, 5p. (5 figs. omitted).
Order from OTS or SLA $1.10 62-13877

Trans. of French patent 1,233,189, internat. cl. B63b, appl. filed 20 June 59, granted 2 May 60, pub. 12 Oct 60.

DESCRIPTORS: *Compressed air, *Control valves, *Pressure regulators, *Breathing apparatus.

Mikhailova, E. M.
SCIENTIFIC AND TECHNICAL CONFERENCE ON PURIFICATION AND TREATMENT OF WATER. 23 Oct 61 [9]p. JPRS: 10792.
Order from OTS or SLA $1.10 62-13235

Trans. of Vsesoyuznoe Khimicheskoe Obshchestvo. Zhurnal (USSR) 1960, v. 5, no. 6, p. 689-690.

DESCRIPTORS: *Conferences, *Sea water, *Purification, Processing, Distilling plants, *Desalination

Natta, G., Mazzanti, G., and Boschi, G.
COPOLYMERS OF HIGH MOLECULAR WEIGHT FROM OLEFINS AND PROCEDURES FOR THEIR PREPARATION. [1961] 46p. (7 figs. 3 tables omitted) 7 refs.
Order from OTS or SLA $4.60 62-10759

Trans. of Italian patent 554,803, by Montecatini Co. of Milan for the Mining Industry and Chemistry, filed 23 Dec 55, granted 16 Jan 57.

DESCRIPTORS: *Ethylenes, *Polymers, *Molecular weight, Alkyl radicals, Catalysts, Transition elements, Polymerization.

A process is proposed for the preparation of linear, high molecular weight copolymers, substantially free of homopolymers, from alpha-olefins CH_2 = CHR where R is an alkyl, among themselves and/or with ethylene. The process is characterized by the use of catalysts selected from those obtained by the reaction of a compound of a transition metal of groups 4, 5 and 6 of the periodic system with a metal alkyl from a metal of group 2 or 3 of the periodic system, said catalysts being able to provoke in the polymerization of single alpha-olefins, the formation of polymers predominantly amorphous and non-crystallizable.

Nurshanov, V. A.
HET AANLEGGEN VAN DIEPE PROEFPUTTEN IN PRODUCTIELAGEN IN HET NEFTECHALAVELD EN PROBLEMEN BETREFFENDE DE KLEISPOELING (The Installation of Deep Test Pits in Production Layers in the Neftechala Field and Problems Concerning the Clay Flushing) 8p. MTWL: 176. (text in Dutch).
Order from OTS or ETC $1.55 61-17842

Trans. of Neftyanoe Khozyaistvo (USSR) 1948, v. 26, no. 7, p. 31-33.

DESCRIPTORS: *Mineral oils, Production, Clays, *Bareholes, Fluids.

Pis'men, M. K., Ermakov, V. G. and others.
EXPERIMENTS ON THE CRACKING OF RESIDUUM AND SHALE TAR. [1962] 8p.
Order from ATS $12.25 ATS-32P59R

Trans. of Gazovaya Prom[yshlennost'] (USSR) 1961, v. 6, no. 11, p. 18-22.

DESCRIPTORS: *Shales, *Coal tar, Hydrocarbons, Decomposition

Pogorel'skii, A. M.
THE FIRST GENERALIZED BASIC EQUATION FOR THE DRILLING PROCESS AT THE BOTTOM OF THE HOLE WHEN A ROTARY BIT IS USED. [1962] 7p
Order from ATS $8.90 ATS-95P58R

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zavedenii. Neft' i Gaz (USSR) 1960, v. 3, no. 7, p. 29-34.

DESCRIPTORS: *Well drilling, *Drilling machines, Industrial equipment.

Preigerzon, G. I.
OVER HET NORMAALBLAD BETREFFENDE DE MONSTERNEMING VAN STEENKOLEN EN ANTHRACIET (The Standard Concerning the Sampling of Coals and Anthracite) tr. by G. J. M. Fritschy. 13p. MTWL: 119. (text in Dutch).
Order from OTS or ETC $1.85 61-17744

Trans. of Za Ekonomiyu Topliva (USSR) 1947, v. 4, no. 5, p. 1-5.
DESCRIPTORS: *Coal, Quality control, Chemical analysis.

Pykhachev, H. B.
OVER DE INVLOED VAN DE DRUK OP DE PRODUCTIESNELHEID VAN EEN OLIELAAG (The Action of the Pressure on the Rate of Production of a Layer of Oil) 12p. 6 refs. MTWL: 62. (text in Dutch).
Order from OTS or ETC $1.85 61-17785

Trans. of Neftyanoe Khozyaistvo (USSR) 1948, v. 26, no. 3, p. 28-32.

DESCRIPTORS: *Mineral oils, Production, *Gases, Pressure.

Rebinder, P. A. and Shreiner, L. A.
PHYSISCH-CHEMISCHE METHODE VOOR VERSNELLING VAN HET BOREN MET BEHULP VAN DE TOEVOEGING VAN HARDHEIDSVERLAGERS AAN HET SPOELWATER (Physicochemical Method for the Acceleration of Drilling by Adding Ore Softeners to Flush Water) 19p. 14 refs. MTWL: 69. (text in Dutch).
Order from OTS or ETC $1.85 61-17792

Trans. of Gornii Zhurnal (USSR) 1938, v. 114, no. 8, p. 16-22.

DESCRIPTORS: *Minerals, *Drilling machines, Chlorides.

Rudkovskii, D. M., Kazakova, B. A., and Markovich, V. G.
OXYDATIEVE PYROLYSE VAN BRANDSTOFFEN BIJ HOGE TEMPERATUUR ALS EEN TECHNISCH MIDDEL TER VERKRIJGING VAN GASVORMIGE OLEFINEN (High-temperature Oxidative Pyrolysis of Fuels as Technical Way of Production of Gaseous Olefins) 16p. 20 refs. MTWL: 201. (text in Dutch).
Order from OTS or ETC $1.85 61-17810

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1946, v. 19, p. 1149-1156.

DESCRIPTORS: *Pyrolysis, Oxidation, *Hydrocarbons, Gases, Kerosene.

Shchelkachev, V. N.
HET OPSTELLEN VAN EEN ALGEMENE REGEL OVER DE INVLOEDSRADIUS VAN OLIEPUTTEN (Drafting of a General Rule on the Radius of Action of Oil Wells) 15p. 11 refs. MTWL: 61. (text in Dutch).
Order from OTS or ETC $1.85 61-17784

Trans. of Neftyanoe Khozyaistva (USSR) 1948, v. 26, p. 10-17. (no. 2).

DESCRIPTORS: Boreholes, *Mineral oils, Production, Fluid flow.

Shishakov, N. V.
VERGASSING VAN BRANDSTOF VOOR DE PRODUCTIE VAN LICHTGAS (Generating Producer Gas) tr. by G. J. M. Fritschy. 12p. MTWL: 81. (text in Dutch).
Order from OTS or ETC $1.85 61-17766

Trans. of Vestnik Inzhenerov i Tekhnikov (USSR) 1947, no. 1, p. 23-27.

*DESCRIPTORS: Fuels, *Gases, Generators.

Shreiner, L. A. and Zhigach, K. F.
HET GEBRUIK VAN OPLOSSINGEN VAN $AlCl_3$ VOOR VERLAGING VAN DE HARDHEID VAN MINERALEN BIJ STOOTBORING (Application of Aluminium Chloride as a Softener of Mineral Strata in a Cable Drilling) 14p. 5 refs. MTWL: 70. (text in Dutch).
Order from OTS or ETC $1.85 61-17793

Trans. of Gornii Zhurnal (USSR) 1938, v. 114, no. 8, 9, p. 26-31.

DESCRIPTORS: Aluminium compounds, Chlorides, *Minerals, *Drilling machines.

Tsiklis, D. S.
ONDERZOEKINGEN BIJ HOGE DRUKKEN (Investigations under high Pressures) tr, by G.J.M.Fritschy. 24p. 135 refs. MTWL: 227. (text in Dutch).
Order from OTS or ETC $1.91 61-17800

Trans. of Uspekhi Khimii (USSR) 1946, v. 14, p. 476-500.

DESCRIPTORS: *High pressure research, Gases, Liquids, Solubility, Phase studies.

Tsiklis, D. S.
ROEREN BIJ HOGE DRUK (Stirring under High Pressure) tr. by G. J. M. Fritschy. 4p. 2 refs. MTWL: 221. (text in Dutch).
Order from OTS or ETC $1.40 61-17794

Trans. of Zavodskaya Laboratoriya (USSR) 1947, v. 13, p. 242.

DESCRIPTORS: *Stirrers, *High pressure research.

Varov, A. A.
TOEPASSING VAN DE BUFFERLAAGMETHODE BIJ FLOODING IN TUIMAZA (Application of the Buffer-layer Method in Flooding in Tuimazy) 7p. MTWL: 63. (text in Dutch).
Order from OTS or ETC $1.85 61-17786

Trans. of Neftyanoe Khozyaistvo (USSR) 1948, v. 26, no. 3, p. 15-18.

DESCRIPTORS: *Mineral oils, Fluid flow, Production, Buffers, *Corrosion inhibition.

[Vinogradov, A. P., ed.].
USSR CHEMICAL INDUSTRY: PT. II. 20 Oct 61 [228]p. JPRS: 10613, pt. 2.
Order from OTS or SLA $15.00 62-13042-2

Partial trans. of mono. [Khimicheskaya Promyshlennost' SSSR, Moscow, 1959, 457p.].

DESCRIPTORS: *Chemical industry, *Fertilizers, *Mining engineering, Sulfuric acid, Sodium compounds, Chlorine, Minerals, Salts, *Reagents, *Radioactive isotopes, Catalysis, *Automation.

Contents:
The production of mineral fertilizers and fixed nitrogen, by S. I. Vol'fkovich and others
The chemical mining industry, by N. S. Ul'yanov
The manufacture of sulfuric acid, by K. M. Malin
The soda industry, by N. M. Boguslavskii
The chlorine industry, by L. M. Yakimenko

Vol'fkovich, S. I. and others.
THE HYDROTHERMAL REFINING OF PHOSPHATES IN A CYCLONE FURNACE. 2 Nov 61 [25]p. 6 refs. JPRS: 10911.
Order from OTS or SLA $2.60 62-13405

Trans. of Khimicheskaya Promyshlennost' (USSR) 1961, no. 6, p. 24-29.

DESCRIPTORS: *Phosphates, Refineries, Purification, *Cyclone furnaces.

The defluorination process of naturally occurring phosphates in cyclone furnaces for normal operating conditions can be carried out stably. In this, one can obtain a phosphate with a fluorine content not greater than 0.2%. Continuous experiments of up to 600 hours have proved the possibility of obtaining defluorinated fused phosphates in a cyclone apparatus with a slag lining. The tests of hydrothermal refining of naturally occurring phosphates in cyclone apparatuses testifies to the high intensity of the process and the necessity of its mastering in experimental industrial conditions. (Author)

Vulis, L. A.
BEREKENING VAN DE VERBRANDINGSTIJD VAN KOOLDEELTJES (Calculation of the Time of Combustion of Coal Particles) tr. by G. J. M. Fritschy. 10p. 13 refs. MTWL: 107. (text in Dutch).
Order from OTS or ETC $1.55 61-17752

Trans. of Zhurnal Tekhnicheskoi Fiziki (USSR) 1946, v. 16, p. 89-94.

DESCRIPTORS: *Coal, *Combustion, Particles, Theory.

Vulis, L. A.
OVER DE SNELHEID VAN DE VERBRANDING VAN ASRIJKE KOOLDEELTJES (The Velocity of Combustion of Coal Particles with a High-ash Content) tr. by G. J. M. Fritschy. 10p. 6 refs. MTWL: 108. (text in Dutch).
Order from OTS or ETC $1.55 61-17753

Trans. of Zhurnal Tekhnicheskoi Fiziki (USSR) 1946, v. 16, p. 95-100.

DESCRIPTORS: *Coal, Particles, *Combustion, Theory.

Yagi, S., Kunii, D. and others.
STUDIES ON AXIAL MIXING OF PARTICLES IN MOVING BEDS. [1962] 11p.
Order from ATS $17.55 ATS-57P58J

Trans. of Kagaku (Kogaku) (Japan) 1961, v. 25, no, 6, p. 469-476.

DESCRIPTORS: *Particles, Motion, *Fluidized solids.

Electrical and Electronic Engineering

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: ELECTRICAL AND POWER ENGINEERING, 1961, NOS. 1-8 and 10-11. 14 Mar 62 [89]p. JPRS: 12968.
Order from OTS or SLA $8.10 62-23449

Trans. of selected abstracts from Referativnyi Zhurnal. Elektrotekhnika i Energetika (USSR) 1961, nos. 1-8 and 10-11.

DESCRIPTORS: *Electrical engineering, *Electric power production, Abstracting, Electrical equipment, Electrical industry, Electric machinery, *China

NEWS OF HIGHER EDUCATIONAL INSTITUTIONS, MINISTRY OF HIGHER AND SECONDARY SPECIALIZED EDUCATION, RADIO ENGINEERING SERIES, 1961, VOL. 4, NO. 1. 10 Nov 61 [181]p. JPRS: 10920.
Order from OTS or SLA $13.00 62-13381

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Radiotekhnika (USSR) 1961, v. 4, no. 1, p. 3-124.

DESCRIPTORS: *Education, *Radio, *Electrical engineering, Electricity, Couplings, Waveguides, Ferrites, Theory, Speech, Hearing, Pulse generators, Magnetic fields, Errors, Phase meters, Frequency, Electric currents, Distribution, Electronic scanners, Transistors, Pulse amplifiers, Digital computers, Phase modulation, Radio broadcasting, Oscillators, Circuits, Diodes, Ferromagnetic materials, Semiconductors, Electronics, Ultra high frequency. (Engineering--Electrical, TT, v. 7, no. 11) (over)

Contents:
Technology and theory of electric information systems, by N. A. Zheleznov
On the theory of a diaphragmed rectangular waveguide, by E. S. Kovalenko and V. S. Kovalenko
Coupling normal waves in waveguide with ferrites, by Yu. Ya. Yurov
A brief review of research into speech and hearing, carried out at Imperial College, University of London, by C. Cherry
A generator of pulsed magnetic fields with a high pulse recurrence frequency, by A. G. Bonch-Osmolovskii and A. D. Khodnevich
Analysis of errors in phase frequency meters, by A. I. Danilenko and K. A. Samoilo
Current distribution in an aerial with non-mechanical scanning, by O. G. Vendik
A transistorized unsaturated pulse amplifier for digital computer systems, by A. G. Philippov
Use of simultaneous amplitude and phase modulation in radio broadcasting, by V. P. Lyannoi
Investigation of a self-oscillator for recording changes in the Q-factor of the oscillatory system, by O. G. Elsting
A heavy current pulse generator for the investigation of ferromagnetic materials, by V. V. Skugarev and A. P. Romanenko
Permissible regimes for electrovacuum devices working with long pulses, by L. B. Fuchs
Decoupling circuits for low-power pulse devices, by V. S. Kuzin
Use of a clamping diode instead of an accelerating capacitance, by I. P. Stepanenko
Terminology for use with semiconductor electronics units, by E. I. Gal'perin
Terminology in semiconductor electronics, by Ya. K. Trokhimenko
Terminology in semiconductor electronics, by L. F. Kuchin and others
Terminology in Transistor electronics, by T. M. Agakhnyan and others
Some notes on an article by V. T. Frolkin and G. V. Markus
Reply by V. T. Frolkin and G. V. Markus
Fundamental ultrahigh-frequency electronics, by V. N. Shevchik
International Conference on Medical Electronics (no. 3)
All-Union Conference of the MViSSO SSSR on Radio Electronics (no. 4)
On the 50th birthday of S. Ya. Braude.

TELECOMMUNICATIONS REVIEW, 1961, NO. 1 AND SUPPL: SUMMARY. 24 May 61 [9]p. JPRS: 9308.
Order from OTS or SLA $1.10 62-19295

Summary trans. of Przeglad Telekomunikacyjny (Poland) 1961 [v. 34] no. 1, p. 1-36 and suppl. p. 1-4.

DESCRIPTORS: *Communication systems, *Data transmission systems, *Transformers, *Negative resistance circuits, *Radio broadcasting, Semiconductors, Communication equipment, Welding, Electric relays, Relays, Transistors, Radio receivers, Antennas, Voltmeters, Telephone communication systems.

Contents:
Service possibilities of data transmission, by Bogdan Piwko
Balancing transformer design, construction, and properties, by Edward Kowalczyk
Negative resistances, by Zbigniew Bolszakov and Wlodzimierz Barjasz
Commutation problems in broadcasting networks, by Waclaw Moszczynski and Stanislaw Miszczak
Review of publications
Domestic and world news
Bulletin of the Industrial Institute of Communications
Data on industry, Sep 60, by H. Czerniszewski
Review of telecommunications abstracts.

Abresch, K., Dickens, P. and others.
THE USE OF POLARIZATION POTENTIAL TITRATION IN THE IRON AND STEELWORKS LABORATORY [AND] AN AUTOMATIC METHOD OF POLARIZATION POTENTIAL TITRATION WITH ALTERNATING CURRENT. Mar 62.
Order from BISI £ 5 15s BISI-2471

Trans. of Archiv für das Eisenhüttenwesen (West Germany) 1960, v. 31, no. 10, p. 595-601 and 603-606.

DESCRIPTORS: Iron industry, Steel industry, Laboratories, *Polarization, *Alternating current, Titration, Automatic, *Electric potential.

Ayzenberg, G. Z.
PERISCOPIC ANTENNA SYSTEM. 19 Jan 62 [25]p.
Trans. Log. no. 1279Z.
Order from OTS or SLA $2.60 62-15729

Trans. from mono. Ultrashortwave Antennas, Moscow, 1957, chap. 19.

DESCRIPTORS: *Antennas, Design, Antenna masts, Antenna radiation patterns, Radio equipment.

Becher, M. and Mark, H. F.
POLYMERS AS ELECTRICAL CONDUCTORS AND SEMICONDUCTORS. [1962] 11p.
Order from ATS $13.45 ATS-17N58G

Trans. of Angew[andte] Chem[ie] (West Germany) 1961, v. 73, no. 19, p. 641-646.

DESCRIPTORS: *Polymers, *Electrical conductance, *Semiconductors

Belevich, G. M. and Efimenko, I. I.
METHOD OF MANUFACTURING PRINTED CIRCUITS. 6 Oct 61 [3]p. MCL-1235; AD-265 698.
Order from OTS $0.50 62-11649

Trans. from #Byulleten' Izobretenii (USSR) 1960, no. 24 (USSR [patent appl.] announcement no. 651887/26, 23 Jan 60).

DESCRIPTORS: *Printed circuits, Electronic circuits, Processing, *Manufacturing methods.

Printed circuits manufactured by the known method of pressing a copper powder, which is applied as an even layer onto a base with a thermo-adhesive coating, by a heated relief matrix still have a sufficiently large resistance due to the low compactness of the printed conductors. A method is described which makes it possible to eliminate this shortcoming of the existing method. A greater structural compactness of the printed conductors and smaller resistance of the latter is achieved by adding from 5 to 25% by weight (mainly 10-12%) tin powder to the copper powder. (Author)

Besekerskii, V. A. and Fedorov, S. M.
SYNTHESIS OF TRACKING SYSTEMS CONTAINING DIGITAL COMPUTERS USING THE METHOD OF LOGARITHMIC AMPLITUDE CHARACTERISTICS (Sintez Sledyashchikh Sistem s Tsifrovymi Vychislatel'nymi Mashinami Metodom Logarifmicheskikh Amplitudnykh Kharakteristik). 4 Oct 61 [17]p. 5 refs.
JPRS: 10314.
Order from OTS or SLA $1.60 61-28759

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1961, no. 3, p. 73-81.

DESCRIPTORS: *Tracking, *Control systems, *Digital computers, Computers, Synthesis, Frequency Amplitude modulation, Low frequency, High frequency, Logarithms.

It is shown that the synthesis of a tracking system using the logarithmic amplitude frequency characteristics (LAC) method based on the criteria of frequency and degree (by accuracy and stability margin) can also be utilised for those systems containing a digital computer. By doing this, all the calculations remain simple and clear. It is convenient in the calculation to use the concept of pseudofrequency, which in the low-frequency region (to the left of the cutout frequency) coincides with the normal angular frequency ω, and which in the high-frequency region makes it necessary to construct an LAC according to the sum of the short time-constants. In this the influence of quantization by time introduced by the computer can easily be taken into account merely by constructing the LAC, without the need to consider the phase characteristics. The suggested method can also be used for normal pulse systems without a memory mechanism. (Author)

Brada, Ferenc.
HUNGARIAN MINIATURE AND TRANSISTOR CIRCUIT COMPONENTS (Miniatur es Tranzisztor Aramkori Alkatreszek). 26 May 61 [33]p. JPRS: 9337.
Order from OTS or SLA $3.60 62-19239

Trans. of Magyar Tudomanyos Alkademia Muszaki Tudomanyok Osztalyanak Kozlemenyei (Hungary) 1960, v. 26, no. 1/4, p. 301-319.

DESCRIPTORS: *Miniature electronic equipment *Electronic circuits, *Transistors, Communication systems, Hungary.

Fainberg, M. Yu.
ELECTRICAL CIRCUIT FOR AUTOMATIC FUNCTIONAL TENSION OF METAL BETWEEN A WINDING MACHINE AND A STAND OF A ROLLING MILL, tr. by J. B. 11 Dec 61, 2p.
Order from OTS or SLA $1.10 62-13868

Trans. of Russian author's certificate 123, 513, cl. 7a, 5/02. appl. 7 Feb 59, subscribed for printing 11 Aug 59 (pub. in #Byulleten 'Izobretenii (USSR) 1959, no. 21).

DESCRIPTORS: Rolling mills, Wire winding machines, *Control systems, *Electronic circuits, Automatic, *Metals, Thickness

In order to obtain uniform thickness of metal, an electrical circuit is used which makes possible the necessary linear variations of excess tension of mental between the winding machine and the stand of the mill when the rolling speed changes.

Glukhov, V.
APPLICATION OF A CALCULATING PANEL FOR THE DETERMINATION OF THE CHARACTERISTICS OF A MAGNETIC AMPLIFIER (Primenenie Rashchetnogo Stola dlya Opredeleniya Kharakteristik Magnitnogo Usilitelya). 20 Oct 61 [23]p. 4 refs. JPRS: 10676.
Order from OTS or SLA $2.60 62-13038

Trans. of Akademiya Nauk Latviiskoi SSR [Riga]. Izvestiya, 1961, no. 2(163) p. 79-88.
DESCRIPTORS: *Magnetic amplifiers, Design, Simulation, Magnetic materials, Amplifiers.

Gornshtein, V. M.
A METHOD FOR TAKING ACCOUNT OF POWER SYSTEM OPERATING CONDITIONS AT THE DESIGN STAGE. [1961] [13]p 4 refs. C. E. Trans. 1960; [DSIR] NLL M. 4664.
Order from OTS or SLA $1.60 62-15717

Trans. of #Elektrichestvo (USSR) 1960, no. 9, p. 4-11.

DESCRIPTORS: *Power plants, *Electric power production, Fuel consumption, Electrical engineering, Thermoelectricity, Economics, Operation, Design.

Grekov, L. I. and Favorskii, O. N.
THE EFFECT OF VISCOSITY ON THE PARAMETERS OF A MAGNETOGASDYNAMIC GENERATOR. 3 Nov 61 [18]p. 5 refs. FTD-TT-61-137; AD-267 721
Order from OTS or SLA $1.60 62-15196

Unedited rough draft trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1961, no. 4, p. 46-54.

DESCRIPTORS: Viscosity, *Generators, *Thermoelectricity, Magnetic fields, *Magnetohydrodynamics, *Plasma physics, Gas flow, Fluid flow, Differential equations, Power plants, Gas turbines, Induction generators.

Consideration of the effect of gas viscosity when calculating the parameters of magnetogasdynamic generators makes it possible to determine the optimum length of the generator, i.e., the length which assures the maximum possible efficiency η^*_{ad}. The most effective means of improving all the data of a magnetogasdynamic (MGD) generator and, in particular, increasing the efficiency η_{ad} and decreasing the optimum length, is to increase the gas temperature at the input T^*_2. An increase in the gas pressure at the intake of the generator always leads to an increase in its optimum length and a decrease in the maximum possible effeciency η^*_{ad}, which requires special consideration when analyzing combination-type power plants: those with MGD generators and gas turbines. (Author)

Gubkin, A. N., Sergienko, V. F., and Trofimenko, N. M.
CONCERNING THE THEORY OF VIBRATION ELEMENTS IN ELECTRETS. 17 Oct 61 [8]p. 5 refs. MCL-1405; AD-265 741.
Order from OTS or SLA $1.10 62-13074

Unedited rough draft trans. of #Pribory i Tekhnika Eksperimenta (USSR) 1961, no. 2, p. 166-169.

DESCRIPTORS: *Electrets, *Vibration mechanisms, Operation, Induction systems, Theory.

The theory of vibration elements is proposed, which work with the use of electrets. The results of the theory were verified experimentally on a model of the electret vibration element. (Author)

Karnovskii, M. I.
ON THE DETERMINATION OF THE SPECTRAL POWER DENSITY OF REAL RANDOM STATIONARY PROCESSES. [1961] [4]p. 3 refs. [DSIR LLU] M. 3215.
Order from OTS or SLA $1.10 61-27634

Trans. of Izvestiya V[ysshikh] Uchebnykh] Z[avedenii]. Radiotekhnika (USSR) 1960 [v. 3] no. 3, p. 337-341.

DESCRIPTORS: *Correlation techniques, Statistical functions, Frequency, *Communications theory.

Attention is directed to the widespread cases, in the literature, of incorrect use of the relationship between the spectral density and correlation function of real stationary random processes. (Author)

Kartvelishvili, N. A.
INFLUENCE OF ERROR IN RELATIVE-INCREASE CHARACTERISTICS ON EFFECT OF OPTIMUM LOAD DESPATCHING BETWEEN POWER STATIONS. [1961] [8]p. 1 ref. C. E. Trans. 1809; [DSIR LLU] M. 3020.
Order from OTS or SLA $1.10 61-27579

Trans. of Akad[emiya] Nauk SSSR. Otdel[enie] Tekh[nicheskikh] Nauk. Izv[estiya]: Energ[etika] i Avtom[atika] 1959, no. 6, p. 16-21.

DESCRIPTORS: *Power plants, Operation, Load distribution, Fuel consumption, Economics, Errors, Probability, Transmission lines.

The article is limited to the case of parallel operation in thermal condensing stations. The relative increases $b_i = b_i(P_i) = dB_i/dP_i$ in the fuel consumption B_i of these stations (i = number of stations) we shall consider as analytical functions of active loads P_i, assuming thereby that the fuel consumption for house needs is included in the relative growth characteristics. Transmission line losses are not taken into account in the solution put forward, but it allows of an automatic check of these losses in cases where, in the transmission line system, they can be directly associated with the relative growth characteristics of the stations. (Author)

Kosyakin, A. A.
DERIVATION OF THE SELF-OSCILLATION PARAMETERS FOR DIGITAL AUTOMATIC-CONTROL SYSTEMS (K Voprosu ob Opre-delenii Parametrov Avtokolebanii v Tsifrovykh Sistemakh Avtomaticheskogo Regulirovaniya). 2 Oct 61 [11]p. 10 refs. JPRS: 10284.
Order from OTS or SLA $1.60 61-28858

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1961, no. 3, p. 91-96.

Portions of this report will not reproduce well.

DESCRIPTORS: Automatic, *Control systems, *Digital computers, Computers, *Analog-to-digital converters, Oscillation, Frequency, Amplitude modulation, Harmonic analysis, Phase modulation, Modulation.

An analytic expression is derived for the equivalent complex gain of an analog-to-digital converter; this enables one to establish the limits within which symmetrical oscillations can occur in a digital system.

Kuzovkov, N. T.
THEORY OF AUTOMATIC CONTROL BASED ON FREQUENCY METHODS. 19 Mar 62 [920]p. 82 refs. JPRS: 13041.
Order from OTS or SLA $33.50 62-23642

Trans. of mono. Teoriya Avtomaticheskogo Regulirovaniya Osnovannaya na Chastotnykh Metodakh, Moscow, 1960, 446p.

DESCRIPTORS: Theory, Automatic, *Control systems, Synthesis, Analysis, Frequency, Amplitude modulation, Phase modulation, Stability, Transients, Linear systems, Functions, Transformations (Mathematics), Differential equations, Algebra, Nomographs, Operational calculus, Logarithms.

The book considers frequency methods for the analysis and synthesis of follow-up and control systems, described by linear differential equations with constant and variable coefficients, and also methods of synthesis of these systems, based on generalized frequency characteristics and logarithmic root hodographs (loci of roots). The book is intended for engineering and technical workers, engaged in problems of automatic control, and for students specializing in this field. (Soviet publisher's note)

Labuntsov, V. A.
SELF-OSCILLATION OF AN IONIC FREQUENCY CHANGER WHEN LOADED BY INDUCTION MOTORS (Samoraskachivanie Ionnogo Preobrazovatelya Chastoty pri Nagruzke na Asinkhronnie Dvigateli). Dec 61 [20]p. 8 refs. RTS 1969.
Order from OTS or SLA $1.60 62-13754

Trans. of Elektrichestvo (USSR) 1954, no. 6, p. 46-52.

DESCRIPTORS: *Induction motors, Oscillation, *Frequency multipliers, Circuits, Operation.

The article describes the phenomenon of self-oscillation (of induction motors) which occurs in an ionic frequency changer circuit when it supplies introduction motors. The effect is due to the presence in the frequency changer circuit of commutating capacitors. On the basis of an analysis, methods are proposed for preventing this effect and they have been checked experimentally. (Author)

Lopukhin, V. M.
GRAPHICAL INVESTIGATION OF A WAVETRON AT THE INITIAL STATE OF GENERATION. [1961] [8]p. 8 refs. [DSIR NLL] M. 4670.
Order from OTS or SLA $1.10 62-19127

Trans. of #Radiotekhnika i Elektronika (USSR) 1959, v. 4, no. 4, p. 681-687.

DESCRIPTORS: *Waveguides, Excitation, Dielectric properties, Electrons, Velocity, Space charges.

A study is made of the essential excitation conditions of a system representing a waveguide of uniform cross section rolled into the shape of a ring. The waveguide is traversed by a annular electron channels with a compensated mean space charge. Calculations are carried out using an approximation of the theory of small amplitudes. The dispersion equation is examined by the graphical methods. (Author)

Matok, Gyorgy.
NEW TYPES OF PRIMARY SOURCES OF ELECTRICITY USED IN HUNGARIAN TELECOMMUNICATIONS ENGINEERING (A Hiradastechnikaban Alkalmazott uj Primer Aramforrasok). 26 May 61 [24]p. JPRS: 9338.
Order from OTS or SLA $2.60 62-19240

Trans. of Magyar Tudomanyos Akademia Muszaki Tudomanyok Osztalyanak Kozlemenyei (Hungary) 1960, v. 26, no. 1/4, p. 321-333.

DESCRIPTORS: *Communication equipment, *Electrical equipment, Miniature electrical equipment, *Telephone communication systems, Hungary.

Mishchenko, E. F. and Pontryagin, L. S.
A STATISTICAL PROBLEM OF OPTIMAL CONTROL. [1961] [6]p. 3 refs.
Order from OTS or SLA $1.10 62-10156

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1959, v. 128, no. 5, p. 890-892.
Other translations are available from OTS or SLA $1.10 as 61-10451 [1960] 8p. and from OTS $1.10 as AD-264 059, STL-TR-61-5110-34, Jan 61, 6p.

DESCRIPTORS: *Scheduling, *Control systems, *Orbital flight paths, Ellipsoids, *Differential equations, Partial differential equations, *Probability, Matrix algebra, Green's function, Spheres, Motion

It is shown that point Q is random if $p(x,\tau, y, \tau)$ as a function of x and σ satisfies the first differential equation of A-N Kolmogoroff (Matematische Annalen 104: 415-458, 1931; available in translation from SLA $6.60 as 62-10151)

$$\frac{\partial p}{\partial \tau} + a^{ij}(x,\tau)\frac{\partial^2 p}{\partial x^i \partial x^j} + b^i(x,\tau)\frac{\partial p}{\partial x^i} = 0.$$

Here $p(x,\tau, y, \tau)$ is the probability density that Q, which is at position x at time τ, will be at position y at time τ. It is shown that the principle term of $\psi_\mu(x,\sigma,\tau)$ has the form $\epsilon^{n-2}\psi_\mu(x,\sigma,\tau)$ and the term is computed. Here $\psi_\mu(x,\sigma,\tau)$ is the probability that Q will meet $\sum_z$ during the time $\sigma \leq t \leq \tau$, and $\sum_z$ is a spherical neighborhood about z (which moves with z) of small "radius" ϵ.

Neidhardt, P.
TRENDS OF MICRO-MINIATURIZATION IN ELECTRONICS. [1961] [20]p. 16 refs.
Order from SLA $1.60 62-10631

Trans. of Nachrichtentechnik (East Germany) 1961, v. 11, no. 6, p. 255-260.

DESCRIPTORS: *Subminiature electronic equipment, Miniature electronic equipment, Electronic circuits, Printed circuits, Life expectancy, Transistors, Electronic equipment, Solid state physics.

Pal'tov, I. P. and Fedorov, S. F.
THE INVESTIGATION OF CLOSED SYSTEMS CONTAINING A DIGITAL COMPUTER WITH A CALCULATION OF QUANTIZATION BY LEVELS (Issledovanie Zamknutykh Sistem s Tsifrovoi Vychislitel'noi Mashinoi (TsVM) pri Uchete Kvantovaniya po Urovnyu). 4 Oct 61 [17]p. 3 refs. JPRS: 10290.
Order from OTS or SLA $1.60 61-28859

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1961, no. 3, p. 82-90.

DESCRIPTORS: Automatic, *Control systems, *Digital computers, Computers, Oscillation, Frequency, Amplitude modulation, Harmonic analysis, Calculus of variations, Nonlinear systems.

Discussions are presented on automatic control systems that include a digital computer, the calculation of quantization by time, and the calculation of quantization by level.

Pekker, I. I. and Nikitenko, A. G.
THE MAXIMUM AND ACTUAL EFFICIENCIES OF ELECTROMAGNETS. 23 Oct 61 [10]p. 4 refs.
FTD-TT-61-120; AD-265 814
Order from OTS or SLA $1.10 62-13071

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Elektromekhanika (USSR) 1960 [v. 3] no. 11, p. 94-97.

DESCRIPTORS: *Electromagnets, Mechanical properties, Magnets.

Work with an electronic simulator (Izvestiya Vysshikh Uchebnykh Zavedenii Elektromekhanika 1958: no. 8, 91-101) showed that the actual work (A_a) accomplished by an electromagnet can differ essentially from its maximum work (A_{max}) and from its conditional useful work (A_c). The ratio A_a/A_{max} varied from 0.1 to 0.6, and the ratio A_a/A_c varied from 1.7 to 6.8. An estimate of the reasonableness of selecting an electromagnet based on its maximum or conditional useful work can lead to erroneous results.

Pokrovskii, V. L.
A GENERAL METHOD FOR DETERMINING THE OPTIMUM DISTRIBUTIONS FOR LINE ANTENNAS. 14 Dec 61 [7]p. 3 refs. MCL-1320.; AD-270 545.
Order from OTS or SLA $1.10 62-15428

Unedited rough draft trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 138, no. 3, p. 584-586. Another trans. is available from OTS or SLA $1.10 as 62-13632, MDF P-171, 1961, 4p.

DESCRIPTORS: *Antennas, Linear systems, Antenna radiation patterns, Lobing, Fourier analysis, Series, Mathematical analysis.

The problem of finding the optimal distribution of these parameters reduces in principle to a numerical calculation. In such a general setup of the problem we consider not only discrete but also continuous distributions of current which do not have special characteristics by presenting them in the form of finite Fourier sums. (Author)

Shekhtman, M. G.
OPERATING CYCLES AND EXTERNAL CHARACTERISTICS OF A TWELVE-PHASE CASCADE-BRIDGE CONVERSION CIRCUIT (Rezhimy Raboty i Vneshnie Kharakteristiki Dvenadtsatifaznoi Kaskadno-Mostovoi Skhemy Preobrazovaniya). Dec 61 [46]p. 3 refs. RTS 1899.
Order from OTS or SLA $4.60 62-13730

Trans. of N[auchno]-I[ssledovatel'skii] I[nstitut] Postoyannogo Toka. Izvestiya (USSR) 1960, v. 5, p. 23-63.

DESCRIPTORS: *Electric bridges, Circuits, *Inverter circuits, *Rectifiers, Operation, Voltage, Direct current, Valves, Ignition, Physical properties.

The data given here about operating cycles, currents, voltages and external characteristics for a cascade connection of two three-phase bridge conversion circuits operating both as rectifier and invertor, have been used in The Institute of Direct Current for several years in calculating various operating cycles for the transmission of dc. The copious experimental data accumulated in the Institute of special models and in the transmission of dc from Kashira to Moscow have confirmed the practical value of these data and the admissibility of disregarding certain quantities in the analysis of the circuit. (Author)

Soskin, E. A. and Faynshtein, E. G.
DISCUSSION CONCERNING AUTOMATION AND THE INTRODUCTION OF REMOTE CONTROL IN THE ELECTRICAL-SUPPLY SYSTEMS OF INDUSTRIAL ESTABLISHMENTS. Based on the article by I. A. Syromyatnikov. 8 Nov 61 [15]p. JPRS: 10924.
Order from OTS or SLA $1.60 62-13337

Trans. of Promyshlennaya Energetika (USSR) 1961, v. 16, no. 2, p. 38-44 (based on article originally pub. in Promyshlennaya Energetika (USSR) 1959, no. 8, p. 1-5).

DESCRIPTORS: *Automation, *Remote control systems, Industrial equipment, *Electric power production, *Power supplies.

Decisions concerning the scope of remote control at industrial establishments, specifically at coal mines, are presented that were arrived at in the course of work performed by the Krivoy Rog Mining Institute.

Spitsyn, N. A.
SUCCESSES OF SOVIET ELECTRIC SPINDLE MAKING. 25 May 61, 7p. JPRS: 8333.
Order from OTS $0.50 61-21745

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. [Mashinostroenie] (USSR) 1960, no. 11, p. 130-134.
DESCRIPTORS: *Electric motors, Design, Production.

Vasilenko, V. A.
ON THE REALIZABILITY OF THE PRINCIPLE OF ABSOLUTE INVARIANCE IN LINEAR SYSTEMS WITH VARIABLE PARAMETERS (O Realiznemosti Printsipa Absolyutnoi Invariantnosti v Lineinykh Sistemakh s Peremennymi Parametrami). 5 Oct 61 [8]p. 5 refs. JPRS: 10354.
Order from OTS or SLA $1.10 61-28735

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1961, no. 3, p. 97-100.

DESCRIPTORS: *Linear systems, *Control systems, Perturbation theory, Functions, Oscillation, Feedback, Tests.

The possible ways of realizing the conditions of invariance for systems with significantly variable parameters are elucidated. (Author)

Zakharov, A. V., Mayorov, A. V., and Levin, B. R.
PROBLEM OF SECURING RELIABLE OPERATION OF A CONTROL INSTALLATION [AND] ON THE RELIABILITY OF AN AMPLIFIER WITH AUTOMATIC AMPLIFICATION CONTROL (K Voprosu Obespecheniya [and] O Nadezhnosti Usilitelya s Avtomaticheskoi Regulirovkoi Usileniya). 1 Nov 61 [15]p. 5 refs. FTD-TT-61-141; AD-267 717
Order from OTS or SLA $1.60 62-13562

Unedited rough draft trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1960, no. 2, p. 205-209.

DESCRIPTORS: *Control systems, *Reliability, Maintenance, *Automation, Failure (Mechanics), Statistical analysis, Amplifiers, Radiofrequency amplifiers, Automatic volume control, Reliability, Feedback, Feedback amplifiers.

Contents:
Problem of securing reliable operation of a control installation
On the reliability of an amplifier with automatic amplification

Zarenin, Yu. G.
FEEDBACK AS A METHOD OF COMPENSATING THE FREQUENCY RESPONSE OF ELECTROMECHANICAL LIGHT MODULATORS. 19 Jan 62 [15]p. 4 refs. FTD-TT-61-290. AD-271 850.
Order from OTS or SLA $1.60 62-19260

Unedited rough draft trans. of Tekhnika Kino i Televideniya (USSR) 1960 [v. 4] no. 6, p. 38-44.

DESCRIPTORS: *Feedback, *Galvanometers, Sensitivity, Electric currents, Measurement, Damping, Linear systems, *Light, *Modulators, Electrical equipment, *Frequency.

The frequency response of a galvanometer is examined (the sensitivity factor is examined only to the extent to which it is connected with the compensation of frequency distortions). Since modern industrial galvanometers in the operating amplitude range are almost free from nonlinear distortions, problems of nonlinearity are not included in the present work; the problem to be examined is reduced to a linear one. (Author)

Ordnance, Missiles, and Satellite Vehicles

Idlis, G. M.
CONQUEST OF COSMIC SPACE. 23 Oct 61 [10]p. FTD-TT-61-103. AD-265 811.
Order from OTS or SLA $1.10 62-13060

Trans. of Akademiya Nauk Kazakhskoi SSR [Alma-Ata] Vestnik, 1961 [v. 17] no. 5(194), p. 10-14.

DESCRIPTORS: *Spaceships, *Space flight, Orbital flight paths, Celestial navigation, Venus, Theory of relativity.

Various cases of applying the universal cosmological principle that any quantitative physical characteristic during the transition from an arbitrary observable section of the Universe to the Universe as a whole either loses meaning due to the absence of a proper limit, or remains identically unchanged, or takes on either an infinite or zero value, which differ in principle from random particular values, (and for each specific characteristic the selection of these four possibilities must perforce be unique), are illustrated by examples having independent interest. For example, the concept of origin which is associated with the generation of the forms of matter under consideration from some other forms and which, in its own way, is natural for any specific finite bodies, loses meaning when applied to the universe as a whole, since no other forms of matter exist, in general, outside the Universe is not known to have any "beginning." For an analogous reason it does not have any "end", i.e., the existence of the Universe in time is endless, and cosmogony of the various celestial bodies (planets, stars, galaxies, etc.) does not have a direct relationship to cosmology. Again one-dimensional and boundless diversity of time can mathematically be either infinite (open) or finite (closed). In the latter case it loses its directivity and is not an objective basis for distinguishing cause from effect in the cause-and-effect chains of events. Consequently, physical time a priori is not closed, but is infinitely extended into the past and future, i.e., the Universe exists eternally.

Keldysh, M. V.
THE HISTORIC ACHIEVEMENT (Istoricheskii Podvig). 6 Nov 61 [9]p. JPRS: 10931.
Order from OTS or SLA $1.10 62-13314

Trans. of Priroda (USSR) 1961 [v. 50] no. 7, p. 3-4.

DESCRIPTORS: *Space flight, *Satellite vehicles, Manned.

In this introductory address to the General Meeting of the USSR Academy of Sciences of 19 May 1961 the Soviet achievements in space technology are praised and special mention is made of the flight of Yu. A. Gagarin.

DECREE ON ENSURING THE PURITY OF WATERS (NO. 1/1961 (I. 22.). 19 Apr 61 [7]p. JPRS: 4534.
Order from OTS or SLA $1.10 62-19218

Trans of Magyar Kozlony (Hungary) 1961, no. 5, p 51-53

DESCRIPTORS: *Water supplies, *Purification, Contamination, Control, *Hungary, Criminal jurisdiction, Industrial plants, Urban areas

Ehrlicher, H.
INSPECTION OF OPERATORS' POSITIONS IN PLANTS PRODUCING AND PROCESSING TOLUYLENE DISSOCYANATES. [1961] 9p.
Order from SLA $1.10 62-10402

Trans. of Zentralblatt für Arbeitsmedizin und Arbeitsschutz (West Germany) [1956] v. 6, p. 138-140.

DESCRIPTORS: Industrial plants, Safety, Sanitary engineering, *Air, *Contamination, *Toluenes, Cyanates, Countermeasures.

Finaly, Lajos.
SOME PROBLEMS OF IMPROVING BIOLOGICAL SEWAGE TREATMENT. 4 Dec 61 [16]p. 1 ref. JPRS: 11346.
Order from OTS or SLA $1.60 62-19564

Trans. of Hidrologiai Kozlony (Hungary) 1961 [v. 41] no. 4, p. 326-329.

DESCRIPTORS: *Sewage, Microorganisms, Enzymes, *Sanitary engineering.

Krejbich, Frantisek and Kubenkova, Vera.
ACCIDENT RATE IN CZECHOSLOVAKIA.
29 Dec 61 [8]p. JPRS: 11727.
Order from OTS or SLA $1.10 62-19621

Trans. of Ceskoslovenske Zdravotnictvi, 1961, v. 9, no. 6, p. 366-375.

DESCRIPTORS: *Accidents, Vital statistics, *Czechoslovakia.

Mironov, V. P., Krashkevich, K. V. and others.
LABORATORY INVESTIGATIONS OF THE EFFECT OF CERTAIN REPELLENTS ON MATURE DERMACENTOR PICTUS HERM TICKS (Laboratornye Issledovaniya Deistviya Nekotorykh Repellentov na Vzroslykh Kleshchei Dermacentor Pictus Herm).
13 Oct 61 [12]p. 4 refs. JPRS: 10464.
Order from OTS or SLA $1.60 61-28885

Trans. of Moscow U. Vestnik. [Seriya 6: Biologiya, Pochvovedeniya] (USSR) 1961, v. 16, no. 1, p. 26-31.

DESCRIPTORS: *Ticks, *Insect repellants, Methyl radicals, Phthalates, Benzoyl radicals, Cyclohexanes, Furfurals, Vinyl radicals, Toluidines, Ethyl radicals, Piperidine derivatives.

During the laboratory investigations of the repellent effect of N-benzoylhexamethyleneimine, divinyl with furfural, and N-benzoylpiperidine, on Dermacentor pictus ticks, it was noted that these preparations differ little from dimethyl phthalate. The repellent effect of paradiethyltoluamide, relative to Dermacentor pictus ticks is less effective than dimethyl phthalate; in some of the experiments, the repellent properties of paradiethyltoluamide was totally absent. No noticeable differences were detected in testing the repellent against Dermacentor pictus males or females. (Author)

Sigal, A. E.
THE EFFECT OF HYDROAEROIONIZATION OF THE MICROFLORA OF THE AIR. 23 Oct 61 [7]p. 8 refs. JPRS: 10784.
Order from OTS or SLA $1.10 62-13229

Trans. of Voprosy Kurort[ologii] Fizioter[apii] i Lech[ebnoi] Fizi[cheskoi] Kul'tury (USSR) 1961 [v. 26] no. 3, p. 235-238.

DESCRIPTORS: *Air, *Ionization, Water vapor, *Decontamination, Effectiveness, *Bacteria.

The number of colonies bred on Petri dishes with agar-agar, exposed after hydroaeroionization is less than on dishes exposed for hydroaeroionization, that is, hydroaeroionization decreases the bacterial content in the air. The higher the concentration of aeroions and the duration of hydroaeroionization, the smaller is the quantity of colonies bred, that is, there exists a direct dependence between the concentration of aeroions and the degree of decrease of the amount of bacteria in the air. (Author)

Veldre, L.
ALL-UNION SCIENTIFIC RESEARCH CONFERENCE ON PROBLEMS OF THE SANITARY PROTECTION OF WATER RESERVOIRS, LVOV, 17-20 JUNE 60.
11 Oct 61 [4]p. JPRS: 10459.
Order from OTS or SLA $1.10 62-13080

Trans. of Zdravookhranenie Sovetskoi Entonii (USSR) 1960, no. 5, p. 69-70.

DESCRIPTORS: Conferences, *Sanitary engineering, *Water supplies, Purification.

Ship Building

Davydov, V. V. and Sakharov, B. B.
THE EMPLOYMENT OF SHOCK ABSORBERS TO LESSEN A SHIP'S VIBRATION. [1961] [9]p. [DSIR NLL] M. 4549.
Order from OTS or SLA $1.10 62-13119

Trans. of Sudostroenie (USSR) 1961 [v. 27] no. 2, p. 25-30.

DESCRIPTORS: *Ships, *Vibration isolators, *Ship hulls, *Ship turbines, Marine engineering, *Ship plates, Mathematical analysis.

An analysis is made of elastic structures installed between the engine and the ship's hull.

Solovev, V. I. and Chumak, D. A.
EXPERIMENTAL INVESTIGATIONS OF PROPELLERS IN NOZZLES AT THE CENTRAL AERO-HYDRODYNAMIC INSTITUTE (MOSCOW) tr. by B. V. Nakonechny. Mar 61 [17]p. 2 refs. DTMB Trans 302.
Order from OTS or SLA $1.60 62-13394

Trans. of mono. Korabelnye Dvizhiteli, n.p., 1948, p. 301-312.

DESCRIPTORS: *Nozzles, *Marine propellers, Model tests.

This report presents in condensed form the results of experimental investigation of three- and four-bladed propellers in nozzles. The experiments included nine nozzles of different form and various length-diameter ratios. Propellers having different pitch- and disc-area ratios were used. The diameter of propellers was 200 mm. The results of the experiments are presented in form of performance characteristics curves. Several additional graphs on full-scale comparison and a discussion on the merits of propeller-nozzle combinations are also given. (David Taylor Model Basin abstract)

FOOD, HANDLING, AND PACKAGING EQUIPMENT

Food

BEER (Pivo). Oct 61 [3]p. RTS 1900.
Order from OTS or SLA $1.10 61-28668

Trans. of Bol'shaya Sovetskaya Entsiklopedia (USSR) 2d ed., n.d., v. 33, p. 14.

DESCRIPTORS: *Beverages, Alcohols, Chemical analysis.

RECENT MEDICAL RESEARCH IN CZECHOSLOVAKIA. 10 Aug 61 [22]p. JPRS: 4858.
Order from OTS or SLA $2.60 62-19522

Trans. of Ceskoslovenska Hygiena, 1961, v. 6, no. 2/3, p. 129-134, 144-148, 162-166.

DESCRIPTORS: *Medical research, *Food, Radiation effects, Radioactivity, Additives, *Alkannin, Toxicity, Meat, Chlorides, *Insecticides

Contents:
Methods of investigating radioactivity in food, by M. Kruparova
Acute toxicity of the food additive alkannin, by L. Majlathova and A. Szokolay
Amperometric estimation of chlorides in meat of animals treated with bovinol and antrix, by A. Pasek and others
Experimental contribution to the problem of some phytoncides, by St. Hruby and L. Pelech.

Rüdiger, Otto.
PROCEDURE FOR PREPARATION OF SOYA MILK. [1961] 2p. 1 ref.
Order from OTS or SLA $1.10 61-20901

Trans. of German patent specification 1 037 245, DBP 1 037 245 Cl 53 k 2/02, Internat. cl. A 231, appl. 14 Jan 56, appl. pub. and specifications issued 21 Aug 58, pat. issued 5 Feb 59 (Concurrent to specifications 1 037 245 (B 38717 IV a/53k).

DESCRIPTORS: *Milk, Preparation, Vegetables

The procedure is characterized in as much that Soya Beans were swelled for some hours in water 40°C and are consequently ground, the hereby obtained pulp is mixed with several times its quantity of a weak aqueous Chlorophyllin solution and shaken, the liquid phase is separated and for the purpose of separation of the bitter substances, filtered through a mixture of yeast and raw natural bleaching earth.

MACHINERY, FABRICATION, AND ACCESSORY EQUIPMENT

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: MACHINE BUILDING, 1961, NOS. 5-6. 7 Feb 62 [81]p. JPRS: 12381.
Order from OTS or SLA $8.10 62-15842

Trans. of selected abstracts from Referativnyi Zhurnal. Mashinostroenie (USSR) 1961, nos. 5-6.

DESCRIPTORS: *Machines, Abstracting, Machine tool industry, *Industrial equipment, Forge presses, Rolling mills, Foundries, Power plants, Passenger vehicles, Tractors, Trailers, Textile industry, Chemical engineering, Oils, Refineries, Railroads, Road building equipment, Construction, *China

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: MACHINE BUILDING, 1961, NOS. 7-9. 5 Mar 62 [74]p. JPRS: 12795.
Order from OTS or SLA $7.60 62-23410

Trans. of selected abstracts from Referativnyi Zhurnal. Mashinostroenie (USSR) 1961, nos. 7-9.

DESCRIPTORS: *Machines, Abstracting, Machine tool industry, *Industrial equipment, Forge presses, Metal forming presses, Foundries, Automatic, Control systems, Passenger vehicles, Tractors, Trailers, Textile industry, Chemical engineering, Oils, Refineries, Rolling mills, Paper industry, Road building equipments, Ships, Construction, *China.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: MACHINE BUILDING, 1961, NOS. 10-13. 9 Mar 62 [75]p. JPRS: 12882.
Order from OTS or SLA $7.60 62-23458

Trans. of selected abstracts from Referativnyi Zhurnal. Mashinostroenie (USSR) 1961, nos. 10-13.

DESCRIPTORS: *Machines, Abstracting, Foundries, Tractors, Trailers, Textile industry, Passenger vehicles, Railroads, *Industrial equipment, Chemical engineering, Oils, Refineries, Power plants, Construction, *China

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: MACHINE BUILDING, 1961, NOS. 14-16, 18-19, 22-24. 11 Apr 62 [64]p. JPRS: 13427.
Order from OTS or SLA $6.60 62-23812

Trans. of selected abstracts from Referativnyi Zhurnal. Mashinostroenie (USSR) 1961, nos. 14-16, 18-19, 22-24.

DESCRIPTORS: *Machines, Abstracting, Machine tool industry, Industrial equipment, Forge presses, Foundries, Rolling mills, Power plants, Railroads, Textile industry, Plastics industry, Rubber, Road building equipment, Passenger vehicles, Tractors, Trailers, Automatic, Control systems, Construction, *China

REFERATIVNYI ZHURNAL. MASHINOSTROENIE (USSR) 1961, NOS. 3-4; ABSTRACTS 3A4-4V53: SELECTED TRANSLATIONS OF ABSTRACTS OF ARTICLES BY CHINESE AUTHORS PERTAINING TO COMMUNIST CHINA (Soviet Abstracts, Machine Construction). 24 Jan 62 [78]p. JPRS: 12104.
Order from OTS or SLA $7.60 62-15661

Complete translations of the Russian-language abstracts of articles originally published in the Sino-Soviet bloc.

DESCRIPTORS: Construction, *Machines, Abstracting, *Machine tools, *Machine tool industry, Forging, Railroads, Chemical industry, Oils, Refineries, Foundries, Vehicles, Aircraft, Transportation, Textile industry, Paper industry, Ships, Agricultural machinery, Road building equipment.

SOVIET MACHINE BUILDING: SELECTED TRANSLATIONS NO. 69. 30 Aug 61 [27]p. 2 refs. JPRS: 9961.
Order from OTS or SLA $2.60 62-23471

Trans. of Kholodil'naya Tekhnika (USSR) 1961 [v. 38] no. 1, p. 1-4, 11-15, 66-68.

DESCRIPTORS: *Machines, *Refrigeration systems, Refrigerant compressors, Industrial equipment, Automatic, Temperature, Servo-mechanisms.

Contents:
Development in production of household refrigerators, by A. B. Krachaturov
New household refrigerators
Short items from newspapers
The Amur type machine for the multiple-point automatic regulation of temperature, by G. M. Kasatkina and others.

Krushchov, M. M. and Babichev, M. A.
THE RELATIONSHIP BETWEEN THE HARDNESS OF METALS AND THEIR [RESIST]ANCE TOWARD ABRASION BY AN ABRASIVE SURFACE. [1961] 9p. (5 refs. 5 figs. omitted).
Order from OTS or SLA $1.10 62-10528

Trans. of Vestnik Mashinostroeniya (USSR) 1954, v. 34, no. 9, p. 3-9

DESCRIPTORS: *Metals, *Hardness, *Abrasion, Resistance, Surfaces, Abrasives, Steel, Friction, Heat treatment.

From the results of the tests on the wear of metals by means of rubbing against an abrasive surface and from the tests on hardness by scratching with the diamond pyramid, it is shown to be possible to construct the diagram with the coordinates "wear resistance ϵ - hardness H" common for all the metals and alloys, up to the hardness of 2500 kg/mm^2]. The wear resistance of the pure metals and alloys in the thermally untreated state is directly proportional to the number of hardness, where the coefficient of the proportionality is general for that group of metals. The wear resistance of the thermally treated steels (quenched and hardened) increases linearly with the increase of the hardness, and this dependence is different for steels of different chemical composition. The wear resistance of the steels does not increase after cold hardening. The wear resistance of the structurally nonhomogeneous alloys, which is clearly distinguished with its structural elements, is considerably lower than that of the pure metals. None of the metals or alloys was detected in which the wear resistance would be higher than that of the pure metals, for which, the directly proportional dependence of the relation for the hardness and the wear resistance is characteristic.

A new, not proportional parameter characterizing the property of the steels increases the wear resistance at the abrasive friction with the increase of its hardness as a result of the heat treatment. (Author)

Kuhne, G.
A STUDY OF THE EFFECTS OF BUOYANCY ON ROTARY DRILLING STRINGS. [1962] 8p.
Order from ATS $13.50 ATS-84P58G

Trans. of Erdöl und Kohle (West Germany) 1961, v. 14, no. 10, p. 809-812.

DESCRIPTORS: *Drilling machines, Flotation, Drills.

Nize, V. E.
INSTRUMENTS FOR SCIENTIFIC STUDY. 17 Nov 61 [7]p. JPRS: 11151.
Order from OTS or SLA $1.10 62-13555

Trans. of Priborostroenie (USSR) 1961, no. 9, p. 12-14.

DESCRIPTORS: Industrial research, *Instrumentation, Machines, *Test facilities.

Problems of science have been growing ever more complex, calling for a rapid improvement in technical means of theoretical and experimental studies for their solution. There is need for new highly sensitive and accurate measuring devices, automatic analysers and synthesizers, and installations for a laboratory reproduction of natural and industrial conditions of experimentation, along with investigation and experimental stands. Scientific instrument-making must be given a place in research, design, and industry, commensurate with its importance in the progress of science. (Extracted)

Engines and Propulsion Systems

PROBLEMS IN OPERATIONS OF HEAT ENGINES (Voprosy Rabochykh Protsessov Teplovykh). 11 Dec 61 [71]p. 23 refs. FTD-TT-61-12. AD-268 873.
Order from OTS or SLA $7.60 62-15395

Unedited rough draft trans. of [Aviatsionnyi Institut, Moscow]. Trudy (USSR) 1958, v. 95, p. [77]-119.

DESCRIPTORS: Gas flow, Gas turbine nozzles, Nozzles, Centrifugal pumps, Simulation, *Heat engines.

Contents:
Gas flow in an oblique tip of single nozzles and turbine nozzles, by A. S. Natalevich
Simulating the operation of a centrifugal pump using air, by N. I. Mikheev.

Deich, M. E. and Gubarev, A. V.
ON THE PROBLEM OF THE "BLOCKING" OF THE DISTRIBUTING NOZZLE AND OF THE WORKING BLADING OF PROFILES IN A SUPERSONIC FLOW. 11 Dec 61 [20]p. 5 refs. MCL-1335; AD-268 872
Order from OTS or SLA $1.60 62-15427

Unedited rough draft trans. of Teploenergetika (USSR) 1960 [v. 7] no. 12, p. 27-33.

DESCRIPTORS: *Supersonic flow, *Turbine blades, Turbines, Nozzles, Aerodynamics, Mathematical analysis, Distribution.

An analysis of the "blocking" conditions is presented and a graphic method for their determination is developed. Some effects connected with blading "blocking" are examined, and the effect of the relative motion of the blading and head shocks upon the "blocking" conditions is analyzed. (Author)

Khazan, S. I.
IMPROVEMENT OF VENTILATION IN THE ROTOR END WINDINGS OF A TURBO-GENERATOR (Uluchshenie Ventilyatsii Lobovykh Chastei Obmotki Rotora Turbogeneratora). 4 Apr 61 [5]p. Trafford Park trans. no. 2834; [DSIR NLL] M. 3228.
Order from OTS or SLA $1.10 62-15250

Trans. of Elekt[richeskie] Stantsii (USSR) 1960 [v. 31] no. 4, p. 81-82.

DESCRIPTORS: *Turbines, Generators, Turbine wheels, Cooling, Ventilation, Maintenance.

A system of reconstructing the ventilation of the end windings is discussed.

Lyudin, G. L., Poznyak, E. L., and Sakharov, I. E.
EXPERIMENTAL DETERMINATION OF THE ELASTICITY OF THE OIL FILM IN SLIDING FRICTION BEARINGS AND THE CRITICAL ROTOR SPEED OF THE TV2-100-2 TURBO-ALTERNATOR. [1961] [12]p. 6 refs. C. E. Trans. 1828; [DSIR LLU] M. 3250.
Order from OTS or SLA $1.60 61-27620

Trans. of Vestnik Elektroprom[yshlennosti] (USSR) 1960, v. 31, no. 5, p. 1-8.

DESCRIPTORS: *Sliding contacts, *Journal bearings, Bearings, Friction, *Oil films, Elasticity, Determination, *Turbines, *Generators, Turbine wheels, Velocity.

The problem of determining the elasticity of the oil film in bearings falls into two parts: firstly - determining the dynamical resilience of the rotor bearings; secondly - measuring displacements of the bearing and displacements of the rotor journal (relative to the bearing) at rotor speeds varying from 0 to 3400 rev/min. The critical rotor speeds can be found from these measurements. (Author)

Nagy, Erno.
THE ION ROCKET. 29 May 61 [29]p. JPRS: 4654.
Order from OTS or SLA $2.60 62-19383

Trans. of Fizikai Szemle (Hungary) 1961, v. 11, no. 1, p. 3-12.

DESCRIPTORS: *Ion rockets, Rockets, Rocket propulsion, Propellants, Rocket motors.

Topunov, A. M.
THEORY OF THE LONG-BLADE TURBINE STAGE: THE RADIAL CHANGE OF PARAMETERS BEFORE THE NOZZLE AND PURELY AXIAL EXIT FLOW ($V_{2u} = 0$). [1961] 11p. 13 refs. C. E. Trans. 1977 [DSIR NLL] M. 4262.
Order from OTS or SLA $1.60 62-13128

Trans. of Teploenergetika (USSR) 1960, v. 7, no. 5, p. 27-32.

DESCRIPTORS: Axial-flow turbines, Turbines, Theory, *Turbine blades, Nozzles, Operation, Pressure.

Equations of the dependence of the stage parameters on radius at the axial outflow from the stage and the variation of total parameters along the radius before the nozzle were deduced. Two cases were considered: (1) the variability of total parameters due to change of velocity, along the radius of inflow at the stage ($C_0 \neq$ const); and (2) the variability of total temperature ($T_0^* \neq$ const.). It was demonstrated that the above mentioned two conditions can change the dependence of the stage parameters on the radius. (Author)

Vidyakin, Yu. A.
DETERMINATION OF THE DAMPING CAPACITIES OF HIGH-FREQUENCY BLADES AND BLADE ASSEMBLIES OF STEAM TURBINES. [1961] [5]p. 4 refs. C. E. Trans. 2105; [DSIR] NLL M. 4661.
Order from OTS or SLA $1.10 62-15715

Trans. of Energomashinostroenie (USSR) 1960, v. 6, no. 11, p. 24-25.

DESCRIPTORS: *Steam turbine blades, *Damping, Vibration, Stainless steel, Thermal stresses.

A statement of experimental data on the effect of the frequency of blade vibration on damping. A conclusion is drawn as to the possibility of estimating the damping of high-frequency blades and their assemblies from the results of testing low-frequency specimens. (Author)

Machine Parts and Mechanisms

Murashov, A. M. and Klimov, N. A.
HIGH-SPEED FIXTURES FOR METAL-CUTTING MACHINES. 1961 [255]p.
Order from OTS or SLA $16.50 62-13557

Trans. of mono. Vysokoproizvoditel'nye Prisposobleniya k Metallorezhushchim Stankam, Moscow, 1959.

DESCRIPTORS: Metals, *Cutting tools, Machines, *Machine tools, Milling machines, Clamps, Jigs, Design, Test, Economics.

This book describes the experience gained by the designers of the Technological Scientific Research Institute and the aircraft factories in the design and use of universal high-speed fixtures for metal-cutting machines. The fixtures described are intended for factories engaged in batch production, and their characteristic feature is their universality and their provision for the use of high-speed mechanized clamping devices. The various types of component machined are grouped under general headings and typical fixture designs are given for each of the classifications; recommendations are also given for testing, adjusting and installing universal fixtures. The book is intended for designers of technological equipment and for planning engineers, foremen and workmen in factories engaged in batch production; it may also be useful to engineering students. (Soviet Publisher's note)

Postash, S. A.
DYNAMIC FACTOR IN THE PERFORMANCE OF TRICONE BITS. [1962] 7p.
Order from ATS $10.25 ATS-94P58R

Trans. of Izvest[iya] Vysshikh Ucheb[nykh]Zavedenii. Neft' i Gaz (USSR) 1960, v. 3, no. 2, p. 39-45.

DESCRIPTORS: Tools, *Drilling machines, Cutting tools.

Reshetov, D. N. and Levina, Z. M.
DAMPING OF OSCILLATIONS IN THE COUPLINGS OF COMPONENTS OF MACHINES (Dempfirovanie Kolebanii v Soedineniyakh Detalei Mashin). [1961] [24]p. (foreign text included) 3 refs. [DSIR NLL] M. 4615.
Order from OTS or SLA $2.60 62-15689

Trans. of Vestnik Mashinostroeniya (USSR) 1956 [v. 36] no. 12, p. 3-13.

DESCRIPTORS: *Machines, Couplings, Oscillation, *Damping, Joints, Roller bearings.

Results are given of an experimental investigation of the damping of oscillations in flat and cylindrical joints and rolling bearings. Key and slot couplings are taken to illustrate the use of data obtained for the estimation of damping in a complex component. (Author)

Sheinberg, S. A.
A GAS LUBRICATED BEARING. 13 Oct 61 [5]p. MCL-1227; AD-265 693.
Order from OTS $0.50 62-11650

Trans. from #Byulleten' Izobretenii (USSR) 1960, no. 16 (USSR [patent appl.] announcement no. 649006/25, 30 Dec 59).

DESCRIPTORS: Bearings, Journal bearings, *Gas bearings, Bushings, Design, Lubrication, Gases, Technological intelligence.

The gas-lubricated bearing, a one-piece cylindrical sleeve, fitted with an aperture on one side for gas supply under pressure, is distinguished by the fact that, in order to increase the dynamic stability of the shaft in rotation and the ease of starting, a longitudinal groove is made in the sleeve, which supplies gas through the above mentioned aperture, and in the wall

of the sleeve, opposite the longitudinal groove, supplementary curved grooves with capillary apertures for the gas supply are made. The finished form of the tearing is distinguished by the fact that in order to simplify manufacture of the apertures, two annular capillary borings, having an operation cross section smaller than the operating cross section of the supply apertures, are made at the ends of the bearing. (Author)

Manufacturing Equipment and Processes

THE NEW BAR-, PROFILE- AND WIRE-ROLLING MILL OF THE BÖHLER BROS. & CO. A.G. IN KAPFENBERG. Mar 62.
Order from BISI £2 5s BISI-2596

Trans. of Maschinenwelt und Elektrotechnik (Austria) 1961, v. 16, no. 3, p. 121-122.

DESCRIPTORS: *Rolling mills, Wire, Rods, Manufacturing methods.

Bartkiewics, B.
THE ECONOMY OF THE SPARK EROSION IN THE MANUFACTURE AND DRESSING OF DROP FORGING DIES. Feb 62.
Order from BISI £2 10s BISI-2434

Trans. of Werkstattstechnik [und Maschinebau] (Germany) 1961, v. 51, June, p. 324-326.

DESCRIPTORS: *Dies, Forging, Forge presses, *Spark machining, Electroerosive machining

Bekjarov, E.
HOT MACHINING. 23 Jan 62, 4p. AID rept. 62-10.
Order from OTS or SLA $1.10 62-19118

Abstract trans. of Strojirenska Vyroba (Czechoslovakia) 1961, v. 9, no. 11, p. 552-556.

DESCRIPTORS: *Machining, Cutting tools, Metals, Heating, Electric currents, Industrial equipment.

The current enters directly into the workpiece from a special terminal. Under the combined action of electric current and heat generated during cutting, a thin layer of metal is heated to 950-1100° C. This facilitates cutting, reduces friction, and as a result, decreases cutting force and eliminates chatter. The difference between the hardness of the tool tip and that of the material being machined increases with the current input so that at 800°C this difference is approximately double that which exists at room temperature. This results in improved cutting properties of the tool, reduced tool wear, and increased productivity by a factor of up to 6 or 8. Improvements are also noted in the surface hardness, wear resistance, notch toughness, tensile and fatigue strength, and surface finish of hot-machined parts. The optimum cutting-tool materials for difficult-to-machine metals with a Rockwell C hardness above 50 proved to be sintered tungsten carbides containing 2 and 3% cobalt as well as ceramics.

Decker, A.
INJECTION OF REDUCING AGENTS INTO THE TUYERES OF A BLAST FURNACE. Feb 62, 5400 words.
Order from HB $13.50 HB-5280

Trans. of Stahl und Eisen (West Germany) 1961, v. 81, no. 19, p. 1264-1270.

DESCRIPTORS: *Blast furnaces, Hydrocarbons, Mineral oils, Injection, Steam.

Efimenko, A. I.
METHOD AND ARRANGEMENT FOR CLARIFICATION OF GLASSMASS UNDER COOKING IN SHAFT FURNACE (Sposob i Ustroistvo dlya Osvetleniya Steklomassy pri Varke v Shakhtnyth Pechakh). [1961] 2p. (foreign text included).
Order from OTS or SLA $1.10 62-10927

Trans. of Soviet patent 68,469, cl. 32a. 4. 389/344, 152, 2 Apr 46.

DESCRIPTORS: *Blast furnaces, *Glass, Production, *Purification, Melting, Combustion chamber gases, Gases, Bubbles

The distinguishing particularity of the proposed method consists in that, for the purpose of facilitating the processes of clarification and homogenization, there are passed through the glassmass the products of combustion, thus bubbling and homogenizing the glassmass. Above the oversurface of the glassmass, in the gas space, there is produced a vacuum, favoring the removal of the products of combustion and of the gaseous components of the charge from the glassmass.

Guarnieri, B. and Vincenzoni, P. I. A.
CONSIDERATIONS ON MODERN SHOP PRACTICE IN HEAVY FORGING. Mar 62.
Order from BISI £7 BISI-2522

Trans. of mono. (Paper) presented at the Conference on Heavy Forging, Terni, Sep 61.

DESCRIPTORS: *Forge presses, *Forging, Machine shop practice.

Ivanov, V. V., Ignat'ev, K. S., and Senatorov, V.A.
A BEARING ALLOY. 1 Dec 61 [3]p. FTD-TT-61-262.
Order from OTS or SLA $1.10 62-15200

Unedited rough draft trans. of #Byulleten' Izobretenii (USSR) 1960, no. 23, p. 52 (Russian patent 134086).

DESCRIPTORS: *Bearings, Bushings, *Bismuth alloys *Lead alloys, Shafts, Steel, Lubrication, Corrosion resistant alloys, Casting.

The bearing alloy contains 30% bismuth and 70% lead. Sleeve bearings with bushings made of this alloy, coupled with the bushings on a shaft made of 1Kh18N12 steel, when lubricated with 12% sulfuric acid or 36% phosphoric acid with a specific pressure of 3-4 kg/cm^2 and increased revolutions (up to 3000 rpm) have high corrosion resistance, good running-in, and assure relatively long operational efficiency.

Kaganovich, S. A. and Polferov, K. Ya.
TESTING BALL MILLS FOR DIFFERENT LENGTHS OF DRUM. [1961] [14]p. 5 refs. C. E. Trans. 1951; [DSIR NLL] M. 4422.
Order from OTS or SLA $1.60 62-13114

Trans. of Teploenergetika (USSR) 1960, v. 7, no. 7, p. 44-51.

DESCRIPTORS: *Ball mills, Coal, Processing, Grinders.

The paper describes tests carried out on a 287/470 ball mill with normal and shortened drum lengths (L_b/D_b = 1.6 and 1.2 respectively). Conditions for increased output and economy are established for the mill, using Moscow Basin coal. (Author)

Kaiser, Siegfried.
INDUSTRIAL TELEVISION IN THE SILICATE INDUSTRY (Das Industrielle Fernsehen in der Silikatindustrie). [1961] 9p. (foreign text included) 2 refs.
Order from SLA $1.10 62-10680

Trans. of Silikat Technik (East Germany) 1960, v. 11, no. 9, p. 401-404.

DESCRIPTORS: *Television, *Industrial equipment, East Germany, *Silicates, Industry

Kitaigorodskii, I. I., Rostokinskii, and Blinov, V. A.
MAKING GLASS FILMS [AND] #PRODUCTION OF VERY THIN GLASS FILM AND ITS SPHERE OF APPLICATION. [1961] [8]p. 3 refs. [DSIR NLL] M 4337.
Order from OTS or SLA $1.10 62-13156

Trans. of Steklo i Keramika (USSR) 1960 [v. 17] no. 7, p. 21-24 and Akademiya Nauk SSSR. Doklady, 1958, v. 121, no. 6, #p. 1060-1062.
#Another trans. is available from CB $5.00

DESCRIPTORS: *Glass, Glass textiles, *Films, Dielectric films, *Manufacturing methods, *Glass capacitors, Mica, Mica capacitors.

Seizinger, Heinrich.
PROCESS FOR THE REMOVAL OF RUBBER OR PLASTICS FROM METALLIC SCREENS OR THE LIKE METALLIC DEVICES, tr. by P. C. C. 22 Dec 61, 3p. 1 ref.
Order from OTS or SLA $1.10 62-13872

Trans. of German patent 852,762, cl. 39a, gr. 12/04. pat. from 2 June 51, appl. announced 7 Feb 52, grant announced 14 Aug 52, pub. 20 Oct 52.

DESCRIPTORS: Wire screens, Rubber, Plastics, Disposal, Heat.

The metallic devices to be cleared are heated in a medium containing no air, in a vacuum, or in a protective gas, until the organic components are vaporized and the inorganic components are incinerated. (Author)

TECHNIQUE FOR YOUTH, 1961, NO. 1: SELECTED ARTICLES. 15 Feb 62 [14]p. FTD-TT-61-225.
Order from OTS or SLA $1.60 62-19261

Unedited rough draft trans. of Tekhnika Molodezhi (USSR) 1961 [v. 29] no. 1, p. 18-19 and 22-23.

DESCRIPTORS: *Vehicles, *Passenger vehicles, Transportation

Contents:
The automobile of the distant future? No, you will soon see it, by N. Vysotskaya
A two-wheel automobile or one hundred miles an hour on a country road, by Yu. Moralevich.

Petrov, A. P. and Pustovoitov, L. F.
THE PRESENT STATE AND METHODS OF DEVELOPING AUTOMATION AND TELEMECHANICS IN RAILROAD TRANSPORTATION (Sovremennoe Sostoyanie i Puti Razvitiya Avtomatiki i Telemekhaniki na Zheleznodorozhnom Transporte). 22 Jan 62 [16]p. (3 figs. omitted). JPRS: 11875.
Order from OTS or SLA $1.60 62-15496

Trans. of Zheleznodorozhnyi Transport (USSR) 1961 [v. 43] no. 10, p. 18-26.

DESCRIPTORS: *Railroad cars, *Locomotives, Transportation, *Remote control systems, Control systems, Automation, Digital computers, Computers.

Reiser, Heinrich.
SADDLE FOR MOTOR VEHICLES, WITH PARTICULAR REFERENCE TO TWO-WHEEL VEHICLES, tr. by J. B. 19 Jan 62, 4p. (1 fig. omitted).
Order from OTS or SLA $1.10 62-15759

Trans. of Italian patent 510,368, cl. VII, by Erich Bagusat and Kurt Bagusat, Germany, appl. 26 Nov 53, granted 21 Jan 55, printed May 57 (Priority: Germany, patent appl. B. 27709, 30 Sep 53).

DESCRIPTORS: *Saddles, *Motorcycles, Foam rubber, Reinforcing materials, Vehicles.

The invention proposes the adoption of a base plate having the edges bent upward on each side, as a lateral support for the soft cushion. The base plate is arranged on the lower side of the saddle below the covering open at this spot. The supporting edge of the base plate, bent upward laterally, is lower than the height of the soft cushion, which height is ascertained at the moment of the maxium elastical depression of the saddle.

SUBSTANCES WHICH ABSORB ULTRAVIOLET RAYS. [1961] 15p. 1 ref.
Order from OTS or SLA $1.60 62-10664

Trans. of French patent 1,266,782, int. cl. C 07c-C 08k-D 06 m, by Farbwerke Hoechst Aktiengesellschaft Vormals Meister Lucius and Bruning, Germany, appl. 26 Aug 60, granted 5 June 61 (patent appl. filed German Federal Republic 26 Aug 59, under no. F 29,243, in name of applicant) pub. in Bulletin Officiel de la Propriété Industrielle (France) 1961, no. 28).

DESCRIPTORS: *Ultraviolet radiation, Absorption, Carboxylic acids, Benzoyl radicals, Naphthalenes, Salts, Ammonia, Amines, Chemical reactions, Absorbents, Organic materials, Coatings, Materials. Excellent absorption agents for ultraviolet rays can be prepared by reacting 4-benzoyl-1-hydroxynaphthalene-2-carboxylic acid, its alkaline salts or its halide salts, by a known method, with ammonia or hydroxylic compounds or aliphatic, cycloaliphatic, araliphatic, aromatic or heterocyclic amines. The form under which it is advantageous to use the starting compounds depends on the reactivity of the starting compounds or on the structure of the end products desired.

Backman, A.
THE PLASTIC BEHAVIOUR OF LIME MORTAR. [1962] [16]p. 8 refs.
Order from SLA $1.60 62-14182

Trans. of Zement-Kalk-Gips (West Germany) 1959, v. 12, no. 10, p. 449-456.
Other trans. are available from MT and from BISI &5 15s as BISI-1500, 1960.

DESCRIPTORS: *Mortar, *Plasticity, Measurement

For abstract see Technical Translations 3: 306, 1960.

Ceramics and Refractories

Chernyak, M. G., Blokh, K. I. and others.
STUDIES OF THE CURRENTS OF MOLTEN GLASS IN ELECTRICAL FURNACES FOR THE PRODUCTION OF GLASS FIBRE. [1961] [6]p. [DSIR NLL] M 4335.
Order from OTS or SLA $1.10 62-13154

Trans. of Steklo i Keramika (USSR) 1960 [v. 17] no. 8, p. 4-7.

DESCRIPTORS: Glass, Melting, Electric furnaces, Production, *Glass textiles.

Egorov, S. V.
TREATMENT OF PLASTMASSES WITH CUTTERS WITH CERAMIC PLATES (Obrabotka Plastmass Reztsami s Keramicheskimi Plastinkami). [1961] [9]p. (foreign text included).
Order from OTS or SLA $1.10 62-10365

Trans. of Stanki i Instrument (USSR) 1953 [v. 24] no. 10, p. 25-27.

DESCRIPTORS: *Cutting tools, *Ceramic materials, Lathes, Mechanical properties, Physical properties, Resins, Wood, Additives.

Evstrop'ev, K. K., Mazurin, O. V., and Molchanov, V. S.
THE RELATIONSHIP BETWEEN SOME PHYSICO-CHEMICAL PROPERTIES OF GLASS AND ITS COMPOSITION. [1962] 4p.
Order from ATS $6.00 ATS-67P59R

Trans. of Vsesoyuz[noe] Khim[icheskoe] Obshchestvo. Zhur[nal] (USSR) 1961, v. 6, no. 1, p. 114-116.

DESCRIPTORS: *Glass, Physical properties, Chemical properties.

Konopicky, K. and Köhler, E.
DETERMINATION OF MULLITE AND GLASS CONTENT OF CERAMIC MATERIALS (Beitrag zur Ermittlung des Mullits und des Glasanteils in Keramischen Erzeugnissen). [1961] [26]p. (foreign text included) 6 refs.
Order from SLA $2.60 62-10531

Trans. of Deutsche Keramische Gesellschaft. Berichte (West Germany) 1958, v. 35, no. 6, p. 187-193.

DESCRIPTORS: *Ceramic materials, *Glass, *Mullite, Determination, Chemical analysis.

The attack of HF of various concentrations upon fire clay, firebrick, stoneware and porcelain is investigated chemically and by aid of X-rays, as a function of the time. Mullite is attacked by HF of various concentrations, even if quartz is present. By aid of several examples it is shown now one may utilize X-ray analysis, by aid of a certain calibration- mullite which was isolated by aid of HF, to bring about an increase of the mullite in the product one desires to manufacture. A method is indicated how one may by a treatment with a 1% HF determine the glassy share and the glass composition in ceramic products. A combined evaluation of the residue curves obtained by the attack of concentrated HF and of the mullite assay found by X-ray investigation makes it possible to say something about the state of burning of the product. (Author)

Slavyanskii, V. T., Krestnikova, E. N., and Proskuryakov, M. V.
STUDY OF BUBBLE FORMATION IN GLASS MELTING UNDER VACUUM. [1962] 7p.
Order from ATS $10.85 ATS-14N51R

Trans. of Steklo i Keramika (USSR) 1959, v. 16, no. 9, p. 25-29.

DESCRIPTORS: *Glass, Melting, Bubbles, Vacuum apparatus.

Volf, M. B.
TECHNICAL GLASSES. [1962] 466p.
Order from PLP $10.00

Trans. of unidentified Czechoslovakian mono., n. p., n d.

DESCRIPTORS: *Glass, Chemical analysis, Industrial production.

Zwetsch, Artur.
DILATOMETRIC INVESTIGATIONS ON PORCELAIN BODIES (Dilatometrische Untersuchungen an Porzellanmassen). [1961] [20]p. (foreign text included) 9 refs.
Order from SLA $1.60 62-10530

Trans. of Deut[sche] Keram[ische] Gesell[schaft]. Ber[ichte] (West Germany) 1952, v. 29, no. 3, p. 73-77 A partial trans. is available from SLA mi$1.80, ph$1.80 as 59-10974 [1958] 10p.

DESCRIPTORS: *Ceramic materials, Dilatometers, Molecular structure, Tests.

By aid of dilatometric measurements it is proved that the particles in a body strand get imparted an orientation during drawing; the orientation of the quartz is confirmed in the microscope. One may conclude from this that the platelets of kaolin expand differently in the directions parallel and vertical to the plane of the platelet. (Author)

Fuels, Lubricants, and Hydraulic Fluids

THE ALL-UNION CONFERENCE ON THE DEVELOPMENT OF OIL AND GAS FIELDS, KIEV, 4-8 JULY 61. 4 Jan 62 [6]p. JPRS: 11837.
Order from OTS or SLA $1.10 62-15350

Trans. of Neftyanoe Khozyaistvo (USSR) 1961, v. 39, no. 9, p. 62-64.

DESCRIPTORS: Conferences, *Fuels, Oils, Gases, Petroleum, Production, Economics.

Artyukh, L. Yu., Vulis, L. A. and others.
HEAT PROBLEMS OF THE BOUNDARY LAYER WITH HETEROGENEOUS AND DIFFUSION BURNING. 2 Feb 62 [18]p. 23 refs. FTD-TT-62-64; SC-971; AD-271 837.
Order from OTS or SLA $1.60 62-19640

Unedited rough draft trans. of paper for presentation Conference [on] Heat [and Mass] Transfer [held in] Minsk, 5-10 June 61.

DESCRIPTORS: *Gases, *Combustion, Chemical reactions, *Laminar boundary layer, Sheets, Heat transfer.

We solve certain problems on the heterogeneous burning on the surface of a body (plate, cone) washed by an infinite or streaming laminar flow of gas having low or high velocity. For the case of an infinite plate we also discuss the solution for a turbulent boundary layer. For high-velocity gas motion we analyze the redistribution of total energy for the most general case of the superposition of three kinetic processes: thermal conductivity, internal friction, and diffusion. We pose and solve new problems on the burning of turbulent streams of unmixed gases, problems of the edge of the stream and of concomitant flows. We examine the case of finite reaction rate. The problems establish a connection between the hydrodynamics of a compressible gas and the heat theory of heterogeneous and diffusion burning. (Author)

Beletskaya, A. F.
DETERMINATION OF THE THERMAL PHYSICAL CONSTANTS OF COAL, COKE AND THE INTERMEDIATE SOLID CARBONISATION PRODUCTS AT LOW TEMPERATURE. [1961] [8]p. NCB Trans. A.1930/SEH; [DSIR NLL] M3284.
Order from OTS or SLA $1.10 62-15257

Trans. of Koks i Khimiya (USSR) 1940, no. 3, p. 24-26.

DESCRIPTORS: *Coal, *Coke, *Carbonization, Production, Thermal diffusion, Thermal conductivity, Specific heat, Specific gravity, Sampling, Temperature.

Klimov, B. K., Kukharenko, T. A., and Chibisova, K. I.
THERMOGRAPHIC STUDY OF HUMIC ACIDS OF COAL. [1961] [6]p. 8 refs. NCB Trans. A.1854/SEH; [DSIR NLL] M3282.
Order from OTS or SLA $1.10 62-15256

Trans. of Akad[emiya] Nauk SSR. Dokl[ady] 1953, v. 92, no. 5, p. 963-966.

DESCRIPTORS: *Coal, *Humic acids, Molecular structure, Peat, Heating, Condensation reactions, Fuels, Decomposition, Chemical analysis.

Mokhnatkin, M. P.
USE OF SIMPLE OPTICAL METHODS IN GROUP ANALYSIS OF GASOLINES. [1961] 4p. 9 refs.
Order from OTS or SLA $1.10 62-10826

[Condensed] trans. of Uspekhi Khimii (USSR) 1945, v. 14, no. 2, p. 148-153.

DESCRIPTORS: *Gasoline, Hydrocarbons, Quantitative analysis, Raman spectroscopy, Refractive index.

Veiler, S. Ya. and Likhtman, V. I.
THE ACTION OF LUBRICANTS IN PRESSURE WORKING OF METALS. 16 Nov 61 [370]p. 375 refs. MCL-1389, AD-267 702.
Order from OTS or SLA $21.00 62-23366

Unedited rough draft trans. of mono. Deistvie Smazok pri Obrabotke Metallov Daveleniem, Moscow, 1960, 231p.

DESCRIPTORS: *Lubricants, Lubricating additives, Lubrication, *Extrusion, Forging, *Drawing (Machine processing), Pressure, Processing, Production, Manufacturing methods, *Metals, Alloys, Wire, Metallic compounds, Additives, Organic compounds, Glass, Salts, Eutectics, Friction, Surface properties, Deformation, Plasticity, Viscosity, Adsorption, Tensile properties, Mechanical properties, Tests, Technological intelligence, Metal forming presses. (Materials--Lubricants, TT, v. 7, no. 11) (over)

Contents:
Physicochemical phenomena in the deformation of metals
Basic specifications for lubricants; classification of lubricants
Research methods
Properties of external friction
Experimental investigation of the operating mechanism of lubricants
Effectiveness of lubricating media in pressureworking of metals
Lubricants for cold pressureworking of metals
Lubricants in hot pressureworking of metals

Vinogradov, G. V., Bezborod'ko, M. D. and others
ORGANOPHOSPHORUS ANTI-WEAR ADDITIVES FOR LUBRICATING OILS. [1961] [14]p. 1 ref. [DSIR NLL] M. 4668.
Order from OTS or SLA $1.60 62-19125

Trans. of Khimiya i Tekhnologiya Topliv [i Masel] (USSR) 1956 [v. 1] no. 5, p. 47-59.

DESCRIPTORS: *Lubrication, *Oils, Additives, Friction, Organic compounds, Phosphorus compounds.

The distinct functional role of phosphorus and sulfur in thio-organophosphorus oil additives during the friction of steel against steel was established.

West, H. L.
OBSERVATIONS CONCERNING THE EFFECT OF DETERGENTS IN MOTOR OILS. [1962] 10p.
Order from ATS $15.75 ATS-07P59G

Trans. of Schweiz[er] Arch[iv für] Angew[andte] Wiss-[enschaft] u[nd] Tech[nik] 1961, v. 27, no. 3, p. 108-114.

DESCRIPTORS: *Detergents, *Fuel oils, Oils.

Leather and Textiles

Jagrova, M. and Rais, J.
EFFECT OF BENZOIC ACID AS CARRIER IN DYEING POLYESTER FIBERS TO EQUILIBRIUM WITH SOME DISPERSE DYES. [1962] 6p.
Order from ATS $8.65 ATS-84N57C

Trans. of Textil (Spain) 1961, v. 16, no. 3, p. 109-111.

DESCRIPTORS: *Benzoic acids, *Dyeing, Esters, Polymers, *Fibers, Dyes.

Rösch, M.
SOME FACTS ON MERCERIZATION AND MERCERIZING AGENTS (Einiges über Mercerisation und Mercerisiermittel). [1961] 37p. (30 figs. omitted).
Order from SLA $3.60 62-10677

Trans. of Melliand Textilberichte (West Germany) 1959, v. 40, Nov, p. 1307-1315.

DESCRIPTORS: *Textiles, Processing, *Wetting agents *Dyes, Cotton textiles, Sodium compounds, Hydroxides, Manufacturing methods.

After a historical review of mercerization, the most important finishing effects expected of it are stressed. These effects, namely luster and increased dye receptivity, are discussed in terms of experimental conditions on the basis of the test results obtained by other authors. A number of yarn and piece-goods mercerization machines are briefly mentioned. Various viewpoints of mercerization technique are then illustrated, particularly with respect to the mercerization wetting agents used, in the light of our own test results. Finally, some test methods to determine the degree of mercerization are briefly discussed. (Author)

Yanovskaya, N. B. and Potapova, K. K.
INVESTIGATIONS OF POLYACRYLONITRILE FIBERS OBTAINED AT VARIOUS DRAFTS. [1962] 5p.
Order from ATS $6.30 ATS-25N52R

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zaved[enii]. Tekhnol[ogiya] Tekstil['noi] Prom[yshlennosti] (USSR) 1960 [v. 4] no. 3, p. 24-29.

DESCRIPTORS: *Acrylonitriles, Polymers, Fibers, *Synthetic fibers

Photographic Materials

PROCESS FOR DEVELOPMENT OF IMAGES WHEN USING ELECTROPHOTOGRAPHIC LAYERS AND MATERIAL FOR ACHIEVING THIS PROCESS. [1961] 10p.
Order from OTS or SLA $1.60 62-10657

Trans. of Belgian patent 601484, by Lumoprint Zindler K. G. [1960] (priority for patent appl. filed German Federal Republic 18 Mar 60 under L 35 669 IVa/15k).

DESCRIPTORS: Photography, *Optical images, *Electrophotography, *Photographic chemicals, Thermal radiation.

There is accomplished by exposure to light of the electrophotographic layer, a distribution of the thermic conductivity in this layer corresponding to the latent image produced. There is exposed to thermic radiation this layer conjointly with sensitive substances under the action of heat, that is, dissolving or reacting

at a determined temperature so that the substances dissolve in conformity with the latent image and form the image. Developing materials are used which produce reactions of a physical and/or chemical nature under the action of heat at a determined temperature according to the electrostatic latent image.

Heloir, George.
MOTION PICTURE CAMERA TAKING, ON ORDINARY FILM, STEREOSCOPIC VIEWS OF STANDARD DIMENSIONS WITH A SINGLE OBJECTIVE. [1961] [3]p. (9 figs. omitted).
Order from OTS or SLA $1.10 62-10900

Trans. of French patent 797415, Gr 17 Cl 3, filed 8 Nov 34, delivered 8 Feb 36, pub 27 Apr 36.

DESCRIPTORS: *Motion picture cameras, Cameras, *Photographic equipment, Photographic film, *Stereoscopic projectors, Stereoscopes, Inventions

The resulting film may be projected like an ordinary non-stereoscopic film, the left and right images being selected for each eye by the method of anaglyphs, or by alternate masking of the eyes, or by any other method. Each left or right view is sent by a transmitting reflecting surface to another pivoted reflecting surface which redirects the view parallel to its original direction and transmits it to an objective, the distance between the two transmitting reflecting surfaces being approximately that between the eyes. The successive transmission of the left and right views to the objective and then to the film is accomplished by displacement of all or part of the two systems of transmitting and receiving reflecting surfaces - left and right - which are presented alternately before the objective. (Author)

Lifshits, E. B.
CHARACTER OF SENSITIZATION AND ABSORPTION. [SPECTRA] OF CERTAIN DIMETHINEMEROCYANINES IN EMULSIONS. [1961] 5p. (2 formulas 2 figs. omitted) 15 refs.
Order from OTS or SLA $1.10 61-20758

Trans. of Zhur[nal] Nauch[noi] i Priklad[noi] Fotografii i Kinemat[ografii] (USSR) 1961, v. 6, no. 1, p. 64-66.

DESCRIPTORS: *Photographic emulsions, *Cyanines, *Dyes, Sensitivity, *Absorption spectra.

Contrary to the generally accepted views, merocyanines with derivative non-symmetrical cyclic ketomethylene compounds have a capacity to J-aggregation. A method is indicated for its development and strengthening.

Luvalle, James E., Goldberg, Gershon M., and Pack, John G.
SENSITIVE MATERIAL FOR PHOTOGRAPHY AND THE PROCESS FOR ITS MANUFACTURE. [1961] 22p.
Order from OTS or SLA $2.60 62-10659

Trans. of French patent 1,267,623, Int. cl. G 03 c (P. V. no. 838,830) by Technical Operations Inc., U. S. A., appl. 16 Sep 60, granted 12 June 61 (patent appl. filed U. S. A. 18 Sep 59, under 840, 973) (pub. in Bulletin Officiel de la Propriété Industrielle (France) 1961, no. 29).

DESCRIPTORS: *Photographic chemicals, *Silver compounds, *Halides, Sensitivity, Photographic equipment, Manufacturing methods.

According to the invention there is vaporized under almost absolute vacuum a photographic substance chosen from the group comprising silver chloride, silver bromide and silver iodide as well as combinations from these various substances and this material is deposited directly by condensation under a practically homogenous polycrystalline form (that is, under a particle form free of binder), on the surface of a support, under conditions of controlled temperature, pressure and duration. (Extract)

Meiklyar, P. V., Ignat'eva, Z. P. and others.
THE SHAPE OF THE SPECTRAL SENSITIVITY CURVE OF A PHOTOGRAPHIC LAYER IN THE BLUE-VIOLET SPECTRAL REGION. [1962] 11p.
Order from ATS $16.85 ATS-62P59R

Trans. of Zhur[nal] Nauch[noi] i Priklad[noi] Fot[ografii] i Kinematografii (USSR) 1961, v. 6, no. 4, p. 264-273.

DESCRIPTORS: *Photography, *Spectrographic analysis.

Szilcs, Miklos.
A STUDY OF THE ONE-STEP FIXING-DEVELOPING PROCESS. [1962] 8p.
Order from ATS $13.60 ATS-66P58H

Trans. of Kep es Hangtechnika (Hungary) 1961, v. 7, no. 4, p. 102-106.

DESCRIPTORS: *Photographic chemicals, Photographic equipment, Photography.

Plastics

Artemov, P. G., Shpak, G. A., and Allik, A. R.
IMPORTANCE OF THE SURFACE LAYER FOR THE MECHANICAL PROPERTIES OF ARTICLES MADE FROM THE PLASTICS MONOLIT NO. 1 AND VOLOKNIT. [1961] [5]p. [DSIR NLL] M. 4671.
Order from OTS or SLA $1.10 62-19128

Trans. of Plasticheskie Massy (USSR) 1960, no. 12, p. 19-22.

DESCRIPTORS: *Plastics, *Mechanical properties, *Surface area, Deformations, *Molding materials.

Removal of the surface layer from Monolit No. 1 and Voloknit plastics has, practically no effect on the compression strength, an appreciable effect on the tensile strength, a much greater effect on the bending strength (when the side without the surface layer is on the zone under tension) and an especially strong effect on the

torsional strength of specimens. The surface layer has some effect on the elasticity constants Ebend and G, the values of which decrease in specimens without a surface layer. The effect of the surface layer on the mechanical properties of plastics is to some degree explained by a greater content of binding materials (resins) in the outer layers of a specimen than in the inner ones, a greater effect of compression on the outer layers of a specimen than on the inner ones and the surface tension of the top film of a specimen. The surface layer in Monolit No. 1 plastics has a greater effect on the strength of specimens than in Voloknit plastics. This is due to the nature of their fillers. The greater part of specimens tested for bending strength do not break down in the centre of the span. (Author)

Gubanov, A. I.
DE MECHANICA VAN ELASTISCH-VISKEUZE PLASTISCHE LICHAMEN. I. ALGEMENE BEWEGINGS VERGELIJKINGEN (Mechanics of Elastic-Viscous-Plastical Bodies. I. General Equations of Motion) 16p. 10 refs. MTWL-206. (text in Dutch).
Order from OTS or ETC $1.85 61-17804

Trans. of Zhurnal Tekhnicheskoi Fiziki (USSR) 1949, v. 19, p. 34-42.

DESCRIPTORS: *Plastics, Elasticity, Viscosity, *Plastic flow, Mechanics.

Gubanov, A. I.
DE MECHANICA VAN ELASTISCH-VISKEUS-PLASTISCHE LICHAMEN. II. AFSCHUIVING. (Mechanics of Elastic-Viscous-Plastical Bodies. II. Shearing.). 34p. 5 refs. MTWL: 206A. (text in Dutch).
Order from OTS or ETC $2.51 61-17805

Trans. of Zhurnal Tekhnicheskoi Fiziki (USSR) 1949, v. 19, no. 1, p. 43-61.

DESCRIPTORS: *Plastics, Elasticity, Viscosity, *Plastic flow, Mechanics.

Jordon, Otto.
PRACTICES IN BONDING THE NEWER PLASTICS. [1961] 14p.
Order from SLA $1.60 62-10599

Trans. of Kunststoffe (West Germany) 1957, v. 47 [no. 8] p. 521-524.

DESCRIPTORS: *Plastics, *Bonding, Amides, Urethanes, Polymers.

It is shown how and within what limits it is possible to get usable adhesive bonds with polyamides and polyurethanes. Methods are discussed for making polyfluorocarbons adherable. Likewise the possibilities with silicone-rubber are treated. Finally the bonding of polycarbonates and of terephthallic acid polyesters, and of polyisobutylene and of tempered plastics are mentioned and several problems of bonding different plastics with each other and with other materials are touched on. (Author)

Kanavets, I. F. and Batalova, L. G.
A METHOD OF DETERMINING THE HEAT-RESISTANCE OF PLASTICS. [1961] [10]p. 17 refs. [DSIR NLL] M.4669.
Order from OTS or SLA $1.10 62-19126

Trans. of Plasticheskie Massy (USSR) 1960, no. 3, p. 58-63.

DESCRIPTORS: *Plastics, Heat resistant polymers, Refractory materials, Deformation, Elasticity, Transformations.

A new and improved method of determining the heat-resistance and the temperature of commencement of degradation of thermosetting plastics is described, together with an improved method of measuring the temperature at which transition occurs from the viscoplastic into the glassy state of a thermoplastic. Three novel types of test pieces of small dimensions are suggested, ensuring accurate measurement of shear and elongation deformation at various temperatures and, consequently, accurate measurement of the modulus of elasticity. The use of these test pieces eliminates distortion of the results of testing arising from the slipping of the test piece in the fastening devices. The method makes it possible to trace the variations in thermosetting materials caused by structural transformations of the polymer which lead to changes in the density and shrinkage of the material. (Author)

Kanavets, N. F. and Grigor'eva, L. F.
THE DIELECTRIC PROPERTIES FROM PRESSING MATERIALS. 30 Oct 61 [24]p. 8 refs. JPRS: 10965.
Order from OTS or SLA $2.60 62-13437

Trans. of Plasticheskie Massy (USSR) 1961, no. 6, p. 13-20.

DESCRIPTORS: Dielectric properties, *Resins, Materials, Electric insulation, *Plastics, Conductivity, Moisture, Temperature, Electrical properties.

Regularities were established of the change of the electrical insulating properties of the products from phenol plastics over a broad interval of temperatures, frequencies and electric field intensities and in dependence on the content of volatiles in the material. The necessity was confirmed of normalizing a series of technological factors connected with the properties of the pressing materials and the conditions of their treatment in the product in order to guarantee the optimum electrical insulating properties of the products. The electrical properties of the products from plastics change in their dependence on temperature and weight of the products, just as the resins themselves. The dielectric losses of the products from pressing materials of the investigated types are stipulated by relaxation-polarization processes and by the conductivity. In view of the dependence of the electrical properties of the plastics on the volatiles content an evaluation method of these properties should contain norms with respect to the volatiles content in the products. (Author)

Tsygankova, N. Ya.
ON IMPROVING THE QUALITY OF POLYVINYL CHLORIDE. 24 Oct 61 [4]p. JPRS: 10798.
Order from OTS or SLA $1.10 62-13233

Trans. of Plasticheskie Massy (USSR) 1960, no. 9, p. 79.

DESCRIPTORS: *Vinyl chlorides, *Polymers, Quality control, Production, *Chlorides.

Short summaries are given of papers that were presented by B. A. Krentsel', A. S. Shevlyakov, and G. V. Struminskiy at a meeting held on 3 June (1960?) by the high-polymer section of the Scientific and Technical Council of the State Council of the Soviet of Ministers USSR on Chemistry.

Ushakov, S. N.
NIEUWE BEREIDINGSWEGEN EN EIGENSCHAPPEN VAN PLASTISCHE MASSA'S (New Methods of Preparation and Properties of Plastic Masses). 7p. MTWL: 71. (text in Dutch).
Order from OTS or ETC $1.55 61-17774

Trans. of Referaty Nauchnoissledovatel'skikh Robot za 1944 God. Otdelenie Khimicheskikh Nauk (USSR).

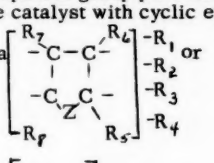
DESCRIPTORS: *Plastics, Preparation.

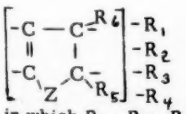
Zuppinger, Paul, Brüschweiler, Hans, and Fisch, Willy.
PROCESSES FOR THE PREPARATION OF PLASTICS BASED ON POLYEPOXIDES. [1961] 18p. 1 ref.
Order from OTS or SLA $1.60 62-10660

Trans. of German patent 1,113,565, by CIBA Aktiengesellschart, Switzerland, Appl. 26 Mar 59, appl. pub. and patent issued 7 Sep 61.

DESCRIPTORS: *Plastics, *Epoxides, Epoxy resins, Chemical reactions, Catalysts, Molecular weight.

A process is proposed for the preparation of plastics based on polyepoxides by hardening of polyepoxy compounds with Friedel-Crafts catalysts, metal fluoroborates or boron trifluoride. Compounds, which, computed from their average molecular weight, contain on the average more than one epoxide group per molecule, react in the presence of the catalyst with cyclic ethers or thioethers of the formula





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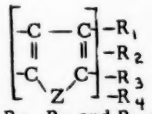

in which R_1, R_2, R_3, R_4, R_5, R_6 and R_7 represent hydrogen atoms or monovalent organic radicals, whereby the radicals R_1, R_2, R_3, R_4 and R_5 can also be members of a ring system, R_8 represents a monovalent organic radical and Z represents an oxygen of sulfur atom.

Rubber and Elastomers

AUTOMATION OF THE SOVIET RUBBER INDUSTRY 21 Dec 61, 4p. 8 refs. AID rept. 61-171; AD-269 808.
Order from OTS or SLA $1.10 62-15409

DESCRIPTORS: *Rubber, *Automation, Control systems, Industrial production, *Synthetic rubber.

MECHANIZATION AND AUTOMATION OF THE SOVIET RUBBER INDUSTRY. 13 Nov 61, 2p. AID rept. 61-151; AD-267 925.
Order from OTS or SLA $1.10 62-13762

Review of #Kauchuk i Rezina (USSR) 1961 [v. 20] no. 8, p. 55-57## and 59-61; Ekonomicheskaya Gazeta (USSR) 1961, no. 7, p. 12.
##A complete trans. is available from OTS or SLA $1.10, JPRS-11638, 18 Dec 61 [10]p.

DESCRIPTORS: *Rubber, *Industry, *Automation, Production, Processing, Design, Technological intelligence.

Contents:
Second Conference on the Automation and Mechanization of the Basic Processes of The Rubber Industry, by I. M. Pumpyanskii
##Greeting the 22nd. Congress of the Communist Party of the Soviet Union: Fulfillment of Socialist obligations by industrial rubber products plants
Durable "shoes" for automobiles, by M. Ivanov.

SCIENTISTS AND SCIENTIFIC ORGANIZATIONS OF THE USSR. 11 Sep 61 [12]p. JPRS: 4971.
Order from OTS or SLA $1.60 61-28307

Trans. of #Kauchuk i Rezina (USSR) 1961 [v. 20] no. 6 [p. 55-58].

DESCRIPTORS: Conferences, *Rubber, Industry, Industrial production, Vulcanizates, Chemical analysis, Design.

Contents:
Scientific and technical conference on the coordination of scientific research and experimental design activities in the rubber industry, by V. P. Khabarov and I. A. Sheftel'
All-Union Conference of chemical analysts from the rubber industry (no. 2) by V. N. Provorov.

Wood and Paper

Nikitin, N. I.
SUCCESSES OF SOVIET WOOD CHEMISTRY DURING THE PAST THIRTY YEARS. 25p. 64 refs. MTWL: 197 (text in Dutch).
Order from OTS or ETC $1.95 61-17821

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1947, v. 20, no. 11, p. 1083-1096.
DESCRIPTORS: SSSR, *Wood, *Chemistry.

Seve, R.
THE MEASUREMENT OF PAPER GLOSS. [1961] 16p. (23 figs. omitted) 18 refs.
Order from SLA $1.60 62-10610

Trans. of Assoc[iation] Techn[ique] de l'Ind[ustrie]. Papetière. [Bulletin] (France) 1961, no. 1, p. 37-53.

DESCRIPTORS: *Paper, Luminescence, Reflection, Measurement, Optical equipment.

A critical investigation of the concept of gloss is undertaken. The part of subjectivity in the evaluation of gloss is recalled. It is then shown that various kinds of gloss exist, which are not evaluated in the same manner. The investigation was restricted to materials such as papers, which do not give apparent specular images. It is shown that the main parameter of gloss is the excess of the luminance factor in the direction of direct reflection over the luminance factor in another direction, where no specular reflection exists. Other useful parameters for the definition of gloss are discussed, as well as the conditions of operation, with special reference to the aperature of the measuring beam and to the use of gloss standards, which are plane plates of black glass. (Author)

Seve, R.
WHITENESS TESTING OF SHEETS CONTAINING FLUORESCENT DYES. [1961] 10p. 15 refs.
Order from SLA $1.10 62-10609

Trans. of A[ssociation] T[echnique de] [l]'I[ndustrie] P[apetiere]. Bull[etin] (France) 1961, no. 2, p. 132-139.

DESCRIPTORS: *Paper, *Fluorescent dyes, Colorimetry, *Colorimetric analysis, Ultraviolet radiation, Test methods.

Modern research on the measurement of whiteness by a single quantity is first reviewed, and the need for extending such research to materials containing fluorescent dyes is shown. The work was undertaken by means of a Zeiss precision colorimeter. Measurements were made on a range of papers dyed with known and increasing amounts of a fluorescent dye. The visual evaluations were compared with the spectral reflectance curves and with the whiteness values computed by the various usual methods: luminance factor, TAPPI brightness, Stephansen whiteness, Hunter's diagram, Judd-Selling whiteness. It is assumed that the source of light contained too many ultra-violet radiations and that the only hope of a solution lies in diagram methods or in formulas like those of Judd and Selling. Hopeful prospects are set forth. (Author)

MATHEMATICS

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: MATHEMATICS, 1961, NOS. 1-6. 5 Mar 62 [68]p. JPRS: 12796.
Order from OTS or SLA $6.60 62-23406

Trans. of selected abstracts from Referativnyi Zhurnal. Matematika (USSR) 1961, nos. 1-6.

DESCRIPTORS: *Mathematics, Literature, Abstracting, *China, History, Differential geometry, Projective geometry, Geometry, Harmonic analysis, Functions, Complex variables, Differential equations, Difference equations, Equations, Time lag theory, Statistical distributions, Matrix algebra, Tensor analysis, Series, Fourier analysis, Operators (Mathematics), Groups (Mathematics), Transformations (Mathematics), Integral equations, Inequalities, Probability, Polynomials, Algebra, Algebraic topology.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: MATHEMATICS, 1961, NOS. 8-9. 9 Apr 62 [18]p. JPRS: 13397.
Order from OTS or SLA $1.60 62-23825

Trans. of selected abstracts from Referativnyi Zhurnal. Matematika (USSR) 1961, nos. 8-9.

DESCRIPTORS: *Mathematics, Literature, Abstracting *China, Functions, Complex variables, Differential equations, Functional analysis, Groups (Mathematics), Algebraic topology, Conformal mapping, Partial differential equations, Probability, Analog computers, Matrix algebra, Numerical methods and procedures.

Maryanovich, T. P.
RELIABILITY OF A SYSTEM OF DEVICES WITH AVAILABLE RESERVES. 22 Jan 62 [8]p. 1 ref. JPRS: 12147.
Order from OTS or SLA $1.10 62-15681

Trans. of Akademiya Nauk URSR, Kiev. Dopovidi, 1961, no. 7, p. 850-853.

DESCRIPTORS: *Reliability, Theory, Probability, Integral equations, Differential equations.

The author considers a system consisting of η devices, each of which may get out of order at any moment irrespectively of the others. The probability of getting out of order in the course of any time interval $(t, t + \Delta t)$ is the same for all devices, is equal to $\lambda\Delta t + \rho(\Delta t)$ and does not depend on t. The time required for rehabilitating the devices is a random variable with a mathematical expectation of $\mu < \infty$ and a distribution function F (x). The probability ρk that, with a steady mode of operation of the system and a reserve m, there will be k devices undergoing repair is given. (Author)

Mudrov, V. I.
QUEUE WITH "IMPATIENT" CLIENTS AND VARIABLE SERVICING TIME, LINEARLY DEPENDENT ON THE TIME OF STAY OF THE CLIENT IN THE QUEUE. 22 Nov 61 [6]p. 1 ref. JPRS: 11186.
Order from OTS or SLA $1.10 62-13536

Trans. of #Problemy Kibernetiki (USSR) 1961, no. 5, p. 283-285.

DESCRIPTORS: *Mathematical predictions, Management engineering, *Scheduling, Probability.

A formula is derived for the percentage of loss of orders in a system wherein clients must form a queue and may become impatient and either leave the queue or refuse to stand in it at all.

Pan, V. Ya.
CERTAIN SCHEMES FOR THE CALCULATION OF VALUES OF POLYNOMIALS WITH REAL COEFFICIENTS. 14 Nov 61 [31]p. 2 refs. JPRS: 11045.
Order from OTS or SLA $3.60 62-13419

Trans. of #Problemy Kibernetiki (USSR) [1961] no. 5, p. 17-29.

Portions of this report will not reproduce well.

DESCRIPTORS: *Polynomials, *Real variables, Numerical methods and procedures, Digital computers, Scheduling, Economics.

Schemes are proposed for calculating a polynomial of degree n with real coefficients. Approximately n/2 operations of multiplication and n operations of addition and subtraction are used. These operations are carried out on the argument x, on certain prescribed parameters (for the given polynomial) and on numbers obtained as a result of preceding operations. Because multiplication is much more difficult than addition, the reduction of the number of multiplications by a factor of 2 (compared with the Horner method) appreciably simplifies the computations. (See also 62-13410)

Teodorchik, K. F.
EEN ITERATIEVE METHODE VOOR HET OPLOSSEN VAN DE KARAKTERISTIEKE VERGELIJKING VAN EEN SYSTEEM VAN DE DERDE ORDE (An Iteratieve Method to Resolve the Characteristic Equation of a System of the Third Order). 6p. 2 refs. MTWL: 200. (text in Dutch).
Order from OTS or ETC $1.55 61-17824

Trans. of Zhurnal Tekhnicheskoi Fiziki (USSR) 1949, v. 19, p. 231-234.

DESCRIPTORS: Mathematics, Equations, *Dynamics, *Differential equations.

Zubov, V. I.
METHODS OF A. M. LYAPUNOV AND THEIR APPLICATION. Oct 61, 234p. 41 refs.
Order from OTS $4.00 AEC-tr-4439

Trans. of mono. Metody A. M. Lyapunova i Ikh Primenenie, Leningrad, 1957.

DESCRIPTORS: Numerical methods and procedures, Mechanics, *Motion, Stability, *Differential equations, *Partial differential equations, Solutions, Functional analysis.

Contents:
Stability of invariant sets of a dynamic system in metric space
Investigation of the problem of stability of motion for systems of ordinary differential equations
Investigation of the vicinity of the trivial solution of the differential equations with the aid of Lyapunov's first method
Investigation of the stability of invariant sets of general systems
Solution of the stability problem for a system of partial differential equations.

Computing Devices

HIGH-SPEED PRINTER FOR 3,000 WORDS PER MINUTE [Ein Schnelldrucker für 3000 Wörter/min]. [1961] 6p. (4 refs. 6 figs. omitted).
Order from SLA $1.10 61-16095

Trans. of Elektronische Rundschau (Germany) 1960 [v. 14] no. 7, p. 273-275.

DESCRIPTORS: *Printing, *Teletype systems, Design, Operation, Electrostatics.

Based on the example of a high-speed printer recording 3,000 words per minute, a new electrostatic printing method is described which theoretically allows for 500,000 words per minute. The characters are produced by point-shaped charges on the surface of the paper, made visible by dusting with ink powder and fixed by thermal action. A general review of the operation is followed by a description of individual control procedures in the receive distributor, and coding, selection of the electrodes and transmission. Finally, a summary of the advantages of this high-speed printer is given. (Author)

Aczel, Istvan.
CONFERENCE OF RUMANIAN ACADEMY OF SCIENCES ON ELECTRONIC COMPUTERS (A Roman Nepkoztarsasag Akademiajanak Konferenciaja az Elektronikus Szamologopekrol). 12 Dec 60 [6]p. JPRS: 4258.
Order from OTS or SLA $1.10 62-19194

Trans. of Magyar Tudomany (Hungary) 1960, v. 5[67] no. 9, p. 554-557.

DESCRIPTORS: Computers, *Digital computers, *Analog computers, Electronic equipment, Rumania, *Conferences, Programming.

Fain, V. S.
AUTOMATING THE INTRODUCTION OF CERTAIN TYPES OF DATA INTO A COMPUTER (Ob Avtomatizatsii Vvoda Nekotorykh Vidov Dannykh v Vychislitel'nuyu Mashinu). 6 Dec 61 [9]p. 5 refs. FTD-TT-61-69.
Order from OTS or SLA $1.10 62-15406

Trans. of Avtomatika i Telemekhanika (USSR) 1961, v. 22, no. 4, p. 536-538.

DESCRIPTORS: *Digital computers, *Automation, Data, Theory, Memory devices, Coding, Switching circuits, Data processing systems.

Discussed is a method of automatically transforming functions, given in form of graphs, oscillograms or other visible images into numerical (table) form. This secures the possibility of directly utilizing the obtained data on digital computers for solving many problems, e.g., for finding interpolation polynomials, for making numerical integration and diffentiation, solving many differential equations, etc. (Author)

Rabinovich, Z. L., Blagoveshchenskii, Yu. V. and others.
SPECIAL-PURPOSE ELECTRONIC COMPUTER SESM. 26 Jan 62 [198]p. FTD-TT-61-100; AD-271 814.
Order from OTS or SLA $13.50 62-19266

Unedited rough draft trans. of mono. Spetsializirovannaya Elektronnaya Schetnaya Mashina SESM, Kiev, 1961, 145p.

DESCRIPTORS: Computers, *Digital computers, Design, Control systems, Scheduling, Circuits, Linear systems, Algebra, Equations, Statistical functions, Mathematical computer data, Coding, Monitoring.

A description is presented of the Special-Purpose Electronic Computer SESM, which is designed to solve systems of linear algebraic equations and compute correlation functions. Explanations are given of the methods of linear algebra, and of the principles of operation of the computer in general, and of the individual devices, units and components. This book is intended for workers involved in the design and application of computers, and also for specialists in related branches of science who are acquainted with the basic concepts of computing technique and computational mathematics. (Soviet publisher's note)

Talantsev, A. D.
CONVERTERS OF ROTATION ANGLES AND LINEAR DISPLACEMENTS INTO DIGITAL FORM (Preobrazovateli Uglov Povorota i Lineinykh Peremeshchenii v Tsifrovuyu Formu). 17 Feb 61 [31]p. (41 English refs. omitted) 2 refs. MCL-287/1+2; AD-257 655.
Order from OTS or SLA $3.60 61-23671

Unedited rough draft trans. of Avtomatika i Telemekhanika (USSR) 1959, v. 20, no. 3, p. 361-375.

DESCRIPTORS: *Analog to digital converters, Circuits, Control systems, Guidance, Fire control systems, Digital recording systems, *Handbooks.

A review, based mainly on English-language references.

MECHANICS

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: MECHANICS, 1961, NOS. 1-5. 9 Apr 62 [30]p. JPRS: 13367.
Order from OTS or SLA $2.60 62-23827

Trans. of selected abstracts from Referativnyi Zhurnal. Mekhanika (USSR) 1961, nos. 1-5.

DESCRIPTORS: *Mechanics, Literature, Abstracting, *China, Sheets, Cylindrical bodies, Creep, Theory, Mechanical properties, Dams, Vibration, Frequency, Water waves, Ocean currents, Transport properties, Hydrology, Drawing (Machine processing), Stresses, Earthquake-resistant structures, Structures, Load distribution, Moments, Thrust, Concrete, Bridges, Cantilever beams, Beams, Model tests, Elasticity, Friction, Turbines, Jets, Axially symmetrical flow, Precipitation, Drainage, Inland waterways, Reinforced concrete, Girders.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: MECHANICS, 1961, NOS. 6-10. 28 Feb 62 [38]p. JPRS: 12734.
Order from OTS or SLA $3.60 62-23417

Trans. of selected abstracts from Referativnyi Zhurnal. Mekhanika (USSR) 1961, nos. 6-10.

DESCRIPTORS: *Mechanics, Literature, Abstracting, *China, Hydrodynamics, Fluid flow, Pipes, Linear systems, Ultrasonics, Heat transfer, Elasticity, Plasticity, Stresses, Cylindrical bodies, Dams, Hydrology, Load distribution, Sheets, Structures.

ACTA MECHANICA SINICA, 1959, VOL. 3, NO. 4: SELECTED TRANSLATIONS. 27 July 61 [97]p. 64 refs. JPRS: 9619.
Order from OTS or SLA $8.60 62-23473

Trans. of Li Hsüeh Hsüeh Pao (Chinese People's Republic) 1959, v. 3, no. 4, p. 281-297, 325-351, 356-363.

DESCRIPTORS: *Mechanics, Literature, Fluid flow, Turbulence, Theory, Vortices, Cylindrical bodies, Sheets, Steel, *Creep, Tests, Stresses, Shear stresses, Deformation, Mathematical analysis.

Contents:
Similarity structure of vorticity fluctuation and the theory of turbulence, by Chou P'ei-yuan
On the problem of non-linear creep, by Chao Tsu-wu
The creep of circular symmetrical flat plate and cylindrical shell, by Huang K'e-chih
Experimental verification of several creep theories by creep tests on No. 45 steel, by K'o Shou-ch'uan and others.

Koida, N. U.
APPLICATION OF THE SIMILARITY PRINCIPLE TO THE FILTRATION OF LIQUIDS (O Primenenii Teorii Podobiya pri Fil'tratsii Zhidkosti) tr. by M. Slade. [1961] [15]p. (foreign text included) 5 refs. [CSIRO] Trans. no. 5449.
Order from OTS or SLA $1.60 62-13605

Trans. of #Zhurnal Fizicheskoi Khimii (USSR) 1960, v. 34, no. 4, p. 789-794.

DESCRIPTORS: *Liquids, Separation, Porous materials, Fluid flow, Turbulent flow, Hydraulic systems Surface area, Particles, *Fluid mechanics.

The present work is a chapter of the dissertation on The Determination of the Hydraulic Resistance of a Porous Material from Its Structure, Leningrad Institute of Transportation Engineers, 1955. The study had as its objective to test the validity of the assumption concerning the existence of a unilateral relation $\lambda = F(Re)$ in the filtration of a liquid. A study of the cross sections of six free-flowing materials showed that no such unilateral relation can exist, because the moduli of the shape of the grains are actually less than the value ordinarily employed (e.g. by Mintz) on plotting the curve $\lambda = F(Re)$. Formulas are presented for the coefficients of laminar and turbulent filtration for homogeneous free-flowing materials.

Kutateladze, S. S. and Leont'ev, A. I.
THE LAW OF RESISTANCE IN THE TURBULENT FLOW OF A COMPRESSIBLE GAS, AND A METHOD FOR CALCULATING FRICTION AND HEAT TRANSFER. 2 Feb 62 [19]p. 24 refs. FTD-TT-62-63; SC-970; AD-271 838.
Order from OTS or SLA $1.60 62-19639

Unedited rough draft trans. of paper for presentation at the Conference [on] Heat [and Mass] Transfer [held in] Minsk, 5-10 June 61.

DESCRIPTORS: Gases, *Turbulent flow, Compressible flow, *Turbulent boundary layer, *Friction, *Heat transfer, Integral equations, Fluid mechanics.

We have found a theoretical law of resistance in the turbulent boundary layer of a gas with non-gradient flow-past of a plate. We have demonstrated the existence of a limiting form of the resistance law, corresponding to very high Re^{**} numbers and self-similar relative to the "turbulence constants" and the physical properties of the viscous sublayer. We have established that even the first approximation of the theoretical formula takes into account the influence of Re^{**} on the relative change in the friction coefficient with the temperature factor. This new theoretical law of resistance for a turbulent boundary layer with non-gradient flow-past of a plate does not require the introduction of any additional empirical coefficients or any special hypotheses associated with the nonisothermal nature and the compressibility of a gas flow. All available experimental data for M numbers up to $\approx$10 are in good agreement with theory, within experimental error. (Author)

Ovsyannikov, B. V.
ABOUT THE INFLOW OF GAS INTO A VARIABLE VOLUME CYLINDER. 30 Nov 61 [9]p. 2 refs. FTD-TT-61-53; AD-268 063
Order from OTS or SLA $1.10 62-15179

Unedited rough draft trans. of Nauchnye Doklady Vysshei Shkoly. Mashinostroenie i Priborostroenie (USSR) 1958, no. 2, p. 68-71.

DESCRIPTORS: *Cylindrical bodies, Volume, *Gases, *Gas flow, *Internal combustion engines, *Adiabatic gas flow, Time, Thermodynamics, Enthalpy, Heat, Pressure, Specific heat, Motion, Differential equations, Integral equations, Integration, Functions.

A method is explained for mathematically determining the change in pressure. The method can be used for qualitatively investigating a number of inflow processes in piston engines. It can be applied for example, when calculating the filling of a DVS crankshaft chamber.

Predvoditelev, A. S.
THE AERODYNAMICS OF RAREFIED GASES, AND HEAT-TRANSFER PROBLEMS. 1 Feb 62 [20]p. FTD-TT-62-54: SC-968; AD-271 839.
Order from OTS or SLA $1.60 62-19638

Unedited rough draft trans. of paper for presentation Conference [on] Heat [and Mass] Transfer [held in] Minsk, 5-10 June 61.

DESCRIPTORS: Gases, *Superaerodynamics, *Heat transfer, *Transport properties, Aerodynamics, Rare gases, Low pressure research, Acoustics, Sound, Absorption, Propagation.

A rectilinear vortex pinch of infinite length in an ideal medium is analyzed. Results show that the physically small volume for viscous-molecular flow should be approximately 8 times greater than a cube having an edge equal to the mean free path of the molecules. This indicates that for continual examination of the medium there need not be as many molecules per cubic centimeter. Consequently, the classical equations for a viscous fluid, derived phenomenologically, may remain in force for a quite highly rarefied gaseous medium. The generalization of the Euler equation, determined from analysis of eddy formation in an ideal discrete medium, can be extended to any gas.

Zimin, E. P. and Yantovskii, E. I.
FLOW OF AN ELECTRICALLY CONDUCTING GAS IN A CHANNEL WITH A TRAVELLING MAGNETIC FIELD. 14 Dec 61 [10]p. 3 refs. FTD-TT-61-113.
Order from OTS or SLA $1.10 62-15398

Unedited rough draft trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Mekhanika i Mashinostroenie, 1961, no. 4, p. 170-172.

DESCRIPTORS: *Gas flow, Magnetic fields, *Magnetohydrodynamics, Feasibility studies, Electric power production, *Gas turbines, Thermal utilization.

The possibility of developing magnetogasdynamic generators is analyzed.

Aerodynamics and Pneumatics

Bessonov, A. G.
THE RELATIVE MERITS OF SOME GAS FILLERS FOR GYROMOTOR HOUSINGS. 1 Dec 61 [14]p. 5 refs. FTD-TT-61-19. AD-268 064.
Order from OTS or SLA $1.60 62-15180

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Priborostroenie (USSR) 1961, v. 4, no. 3, p. 68-74.

DESCRIPTORS: *Gyroscopes, Coolants, Hydrogen, Helium, *Gases, *Additives.

Air is considered a natural gas filler for gyromotor housings. In connection with this, other gas fillers are examined. There are two basic requirements for a filler: the lowest aerodynamic resistance to the rotation of the rotor and the best gyro-motor coolant. Hydrogen and helium are the optimum fillers. (Author)

Ershov, V. N. and Pavlenko, G. V.
ROTATING STALL IN AN AXIAL COMPRESSOR STAGE, tr. by E. P. Tyrrell and J. Dunham. Nov 60 [9]p. T. I. L./O. T. 4256; [DSIR LLU] M. 3048.
Order from OTS or SLA $1.10 61-27561

Trans. of Izv[estiya] V[ysshikh] U[chebnykh] Z[avedenii]. Aviat[sionnaya] Tekh[nika] (USSR) 1959, no. 3, p. 64-71.

DESCRIPTORS: *Axial-flow compressors, *Axial-flow compressor blades, Compressors, *Axially symmetric flow, Stability, Rotation, Stalling, Mathematical analysis.

An analysis is made of the loss of stability of the axisymmetric flow in an annular rotating cascade. The length of the blades is taken to be very small compared with the radius of wheel.

Ginzburg, I. P.
POSSIBLE METHODS FOR SOLVING BOUNDARY-LAYER PROBLEMS WITH DISSOCIATION AND DIFFUSION. 24 Jan 62 [32]p. 37 refs. FTD-TT-62-60.
Order from OTS or SLA $3.60 62-15814

Unedited rough draft trans. of mono. (paper) from Conference [on] Heat [and Mass] Transfer, held in Minsk, 5-10 June 61. [Proceedings].

DESCRIPTORS: Gases, *Boundary layer, Turbulence, Motion, Wings, Asymmetric bodies, *Thermal diffusion, Thermal radiation, Thermodynamics, *Dissociation, Mathematical analysis.

Mazyukevich, F. V.
THE CONDENSATION OF VAPORS IN THE PRESENCE OF NON-CONDENSABLE GASES (Kondensatsiya Parov v Prisutstvii Nekondensiniyushchikhsya Gasov) tr. by G. Fulford. Aug 60, 6p. 6 refs. [DSIR NLL] M 4294.
Order from OTS or SLA $1.10 62-13141

Unedited trans. of Tekhnologicheskii Institut Kholodil'noi Promyshlennosti. Trudy (USSR) 1956, v. 11, p. 109-114.

DESCRIPTORS: *Vapors, *Condensation, *Gases, Mixtures, Physical properties, Impurities, Boundary layer, Heat transfer, Ammonia, Molecular weight, Reynolds number.

The process of condensing a vapor from a vapor/gas mixture depends on the physical properties of the gaseous impurity. The process of mass transfer at small Reynolds numbers of the vapor/gas mixture depends, to a considerable degree on the interaction between the condensate film and the vapor/gas boundary layer, and also on the difference in the specific weights of the vapor and gas. (Author)

Stepanchuk, V. F.
AN ADIABATIC-ISOTHERMAL NOZZLE, tr. by Joy B. Gazley. Dec 61 [13]p. 3 refs. Rand Memo. RM-2930-PR. AD-269 712.
Order from OTS or SLA $1.60 62-13985

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1959, v. 2, no. 8 p. 66-71.

DESCRIPTORS: *Adiabatic gas flow, Gas flow, Temperature, Pressure, Velocity, *Nozzles, Design, Mathematical analysis, Differential equations.

A method is presented for the nozzle calculation for a chemically active flow at a constant static temperature.

Hydrodynamics, Hydraulics, and Hydrostatics

Aleksandrov, I. A.
SOME SPECIAL FEATURES OF CAVITATION IN (SHIPS) SCREWS. [1961] [4]p. 4 refs. [DSIR NLL] M. 4624.
Order from OTS or SLA $1.10 62-15698

Trans. of #Akusticheskii Zhurnal (USSR) 1961, v. 7, no. 1, p. 87-89.

DESCRIPTORS: *Marine propellers, Ships, *Cavitation, Hydrodynamics.

It was established that cavitation occurs at speeds of rotation of the screw less than that at which the strength of the noise radiated increases abruptly. This is explained by the fact that owing to pulsations in the velocity of flow over the blade, local regions of reduced pressure are set up on it and the development of cavitation spaces occurs in these. Cavitation bursts become apparent when listening, in the form of separate clicks which can easily be distinguished from the general noise of the screw. The appearance of these clicks also determines the moment at which cavitation begins. (Author)

Bugakov, P. I., Gruzinova, T. A. and others.
INVESTIGATION OF A HYDRAULIC SYSTEM HAVING A BODY MOVING WITHIN IT. [1961] [32]p.
Order from OTS or SLA $3.60 AEC-tr-4675

Trans. of mono. Issledovanie Gidravlicheskoi Sistemy s Dvizhushchimsya v Nei Telom, Moscow, 1960 [42p.].

DESCRIPTORS: *Hydraulic systems, Liquids, Fluid flow, *Cylindrical bodies, Motion, Theory, Differential equations, Pressure, Friction, Inertia, *Hydraulic research.

As a result of the theoretical studies conducted the equations of motion of the liquid and of the cylindrical body in a hydraulic circuit have been obtained. Analysis of the hydraulic processes during the fall of the body has shown that short duration fall of the body with no cavitation in the circuit is obtained through installation of a gas-liquid accumulator. It is desirable to install the accumulator directly over the vertical tube. (Author)

Konobeev, B. F., Malynsov, V. A., and Zhavoronkov, N. M.
THE HYDRAULIC RESISTANCE AND THICKNESS OF THE FILM IN REVERSE FLOW OF A LIQUID UNDER THE ACTION OF A GAS IN VERTICAL TUBES (Gidravlicheskie Soprotivleniya i Tolshchina Plenki pri Obrashchennom Techenii Zhidkosti pod Deistviem Gaza v Vertikal'nykh Trubakh) tr. by G. Fulford. 4 Aug 60, 6p. 2 refs. [DSIR NLL] M. 4283.
Order from OTS or SLA $1.10 62-13130

Unedited trans. of Khimicheskaya Promyshlennost' (USSR) 1957, no. 3, p. 38-41.

DESCRIPTORS: *Gases, *Liquids, Fluid flow, Equations, *Films, *Thickness, Hydraulic systems.

Equations are derived for the determination of the thickness of films and the pressure drop in reverse flow of a liquid film under the influence of a gas stream in a vertical tube. These equations make it possible to calculate the film thickness and pressure drop from the given flow rates of gas and liquid without having to carry out any experiments. An experimental verification of the derived equations indicated their applicability over a wide range of gas and liquid velocities. The limits of the derived equations are given. (Author)

Konsetov, V. V.
HEAT TRANSFER DURING THE CONDENSATION OF VAPOR IN HORIZONTAL PIPES (Teploobmen pri Kondensatsii para Vnutri Gorizontalnykh Trub) tr. by G. Fulford. June 60, 7p. 4 refs. [DSIR NLL] M. 4633.
Order from OTS or SLA $1.10 62-15707

Unedited trans. of Inzh[enerno-]Fiz[icheskii] Zhurnal (USSR) 1960, v. 3, no. 6, p. 9-16.

DESCRIPTORS: *Heat transfer, Vapors, Condensation, *Pipes, Hydrodynamics.

Consideration is given to the problem of heat transfer during the condensation of a pure vapor flowing inside horizontal and slightly inclined tubes. The theoretical results are compared with experimental data of the author and of other investigators. A simple approximation is recommended for calculating the dependences. (Author)

Peshkin, M. A.
CONCERNING THE INFLUENCE OF THE TEMPERATURE OF A LIQUID ON THE CAVITATION CHARACTERISTICS OF A CENTRIFUGAL PUMP [O Vliyanii Temperatury Zhidkosti na Kavitatsionnye Kharakteristiki Tsentrobezhnogo Nasosa]. 15 Dec 61 [13]p. 3 refs. FTD-TT-61-52; AD-269 159.
Order from OTS or SLA $1.60 62-15408

Unedited rough draft trans. of Teploenergetika (USSR) 1958 [v. 5] no. 2, p. 47-51.

DESCRIPTORS: *Centrifugal pumps, Cavitation, Liquids, Temperature, Kerosene, Water, Physical properties.

The cavitation characteristic curve of a centrifugal pump constructed in dimensionless coordinates in accordance with the cavitation number improves with the rise of the temperature of the liquid. This can be explained by the change in the physical properties of the liquid and their effect on the process of cavitation. The computation determination of the maximum pressure at the inlet into the pump which is necessary for cavitationless operation should be done taking into consideration the change in the cavitation reserve from the change in the physical properties of the liquid. The pressure at the inlet to the pump, determined for operation with a hot liquid in accordance with data of tests on a cold liquid, only taking into account the change in pressure, will be increased. (Author)

Volkov, R. A.
THE APPLICATION OF THE LAPLACE TRANSFORM TO SOME HYDRODYNAMIC PROBLEMS (Primenie Preobrasovaniya Laplasa k Nekotorym Zadacham Gidrodinamiki) tr. by G. Fulford. May 60, 8p. 8 refs. [DSIR NLL] M. 4631
Order from OTS or SLA $1.10 62-15705

Unedited trans. of Inzh[enerno-]Fiz[icheskii] Zhurn[al] (USSR) 1960, v. 3, no. 4, p. 65-72.

DESCRIPTORS: *Hydrodynamics, *Integral transforms, Jet mixing flow, Viscosity.

The theory of viscous, laminar jet flow in a field of gravity forces is dealt with on the basis of the Navier-Stokes equation and the Oseen assumption. The solution of concrete problems requires the use of methods of operational evaluation. (Author)

Yablonskii, V. S., Asaturyan, A. Sh., and Khizgilov, F. Kh.
ON TURBLENT DIFFUSION IN PIPES (O Turbulentnoi Diffuzii v Trubakh) tr. by G. Fulford. July 60, 6p. 10 refs. [DSIR NLL] M. 4627.
Order from OTS or SLA $1.10 62-15701

Unedited trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1960, v. 3, no. 3, p. 117-122.

DESCRIPTORS: *Turbulent flow, Hydrodynamics, Liquids, Fluid flow, *Pipes.

The experimental verification of the theory given makes it possible to suppose that Kolmogorov's postulate concerning the local isotropy of turbulence can be extended to restricted spaces also, i. e., to cases in hydrodynamics, and in particular, to the flow of liquids in cylindrical pipes. (Author)

Yakovleva, E. D.
HYDRODYNAMIC RESISTANCE OF TUBE BUNDLES IN TRANSVERSE FLOW AT Re > 70,000. [1961] [38]p. 2 refs.
Order from OTS or SLA $3.60 AEC-tr-4681

Trans. of mono. Gidrodinamicheskoe Soprotivlenie Poperechno-Obtekaemykh Puchkov Trub pri Chislakh Re > 70,000, Moscow, 1960 [40p.].

DESCRIPTORS: Water, *Fluid flow, Pipes, *Hydrodynamics, Tests, Reynolds number.

The coefficient of hydrodynamic resistance (Eu) of tube bundles in transverse flow was determined as a function of Reynolds number (Re) for the range $40,000 < Re < 300,000$. Tests showed that the equation $Eu = c_1 \cdot c_2(m + 1)Re^{-0.27}$ is valid only up to a certain value of Re, beyond which there is a change in the laws governing resistance, occasioned by transition to the automodulus region, where Eu is independent of Re. The number Re_{au}, corresponding to this transition, depends on the geometric parameters of the bundle. Further increase of Re leads to a critical condition in which increasing Re leads to a sharp dropin the resistance. (Here c_1 represents the coefficient that depends on the width pitch of the bundle, c_2 is the coefficient that depends on the distance between centers in the direction S_2, and m is the number of rows of tubes in the direction of fluid motion.)

Zaitsev, A. A.
ON THE PROBLEM OF THE STABILITY OF A VISCOUS FILM ON A SOLID BODY IN A GAS STREAM (K Voprosu ob Ustoichivosti Vyazkoi Planki na Tverdom Tele v Potoke Gaza) tr. by G. Fulford. Oct 60, 6p. 1 ref. [DSIR NLL] M. 4625.
Order from OTS or SLA $1.10 62-15699

Unedited trans. of Akad[emiya] Nauk SSSR. Doklady, 1960, v. 130, p. 1228-1231.

DESCRIPTORS: *Films, Viscosity, Stability, *Solids, Gas flow, Hydrodynamics, Mathematical analysis.

Zhavoronkov, N. M. and Nikolaev, A. M.
THE DETERMINATION OF EDDY VISCOSITIES IN TURBULENT FLOW IN CHANNELS OF RECTANGULAR CROSS-SECTION (Opredelenie Vikhrevoi Vyazkosti Turbulentnogo Potoka v Kanale Pryamongol'nogo Sechenie) tr. by G. Fulford. Dec 60 [15]p. 6 refs. [DSIR NLL] M. 4295.
Order from OTS or SLA $1.60 62-13109

Unedited trans. of Khimiko-Tekhnologicheskii Institut, Moscow. Trudy (USSR) 1956, v. 21, p. 177-193.

DESCRIPTORS: *Turbulent flow, Velocity, Viscosity, Mathematical analysis, Mass transfer, Heat transfer, Phase transitions, Distribution theory, Resistance.

The law of the velocity distribution in the core of a turbulent stream was considered. The ratio U_m/U_o has been obtained for a stream with parallel walls. Formulae are derived for the eddy viscosity. The velocity distribution law in the transition layer is considered.

METALLURGY

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: METALLURGY, 1961, NOS. 5-9. 5 Mar 62 [37]p. JPRS: 12797.
Order from OTS or SLA $3.60 62-23328

Trans. of selected abstracts from Referativnyi Zhurnal. Metallurgiya (USSR) 1961, nos. 5-9.

DESCRIPTORS: *Metallurgy, Abstracting, Refractory materials, Cast iron, Production, Open hearth furnaces, Ores, Rare earth elements, Rolling mills, Welding, Steel, Castings, Phase studies, Heat treatment, Pressure, Corrosion, *China.

INVESTIGATIONS OF HEAT RESISTANT ALLOYS: SELECTED ARTICLES. 4 Dec 61 [73]p. (23 figs. 3 tables omitted) 16 refs. FTD-TT-61-31. AD-269 160.
Order from OTS or SLA $7.60 62-15273

Unedited rough draft trans. of [Aviatsionnyi Institut, Moscow. Trudy] (USSR) 1960, v. 123, p. 17-34, 45-52, 65-68.

DESCRIPTORS: *Heat resistant alloys, Gas turbine blades, Mechanical properties, Sodium, High temperature research, Corrosion-resistant alloys, *Stainless steel.

Contents:
Selective alloying as a method for improving heat resistance, by S. M. Vinarov
Investigation of the dependence of the structure and properties of gas turbine blades on the duration of operations, by S. T. Kishkin and others
Strength of alloys in contact with sodium, by S. T. Kishkin and G. P. Benediktova
High temperature corrosion resistance, by G. N. Dubinin.

JOINING OF SAP (SINTERED ALUMINUM POWDER). 14 Dec 61, 3p. AID rept. 61-166; AD-269 789.
Order from OTS or SLA $1.10 62-15411

Review of #Svarochnoe Proizvodstvo (USSR) 1961, no. 11, p. 7-13.

DESCRIPTORS: *Powder metallurgy, *Sintered alloys, Aluminum, *Aluminum alloys, *Spot welding, *Welded joints, Sheets, Brazing.

Abstracts are presented of articles entitled Spot and seam welding of SAP, by Yu. V. Dmitriev et al., and Brazing of SAP, by Yu. S. Dolgov et al.

PROPERTIES AND STRUCTURE OF BORIDES: SELECTED ARTICLES, tr. by F. W. Vahldiek and S. A. Mersol. Rept. on Refractory Inorganic Nonmetallic Materials. Jan 62 [25]p. 31 refs. ASD-TR-61-514; AD-273 601.
Order from OTS $0.75 62-11652

Trans. of Kristallografiya (USSR) 1956, v. 1 [no. 1(?)] article 6; **Akad[emiya] Nauk SSSR. Doklady, 1955, v. 105, no. 3, p. 499; Zhur[nal] Prikladnoi Khim[ii] 1956, v. 30, Exp. 9, 2057-2060 [sic]: **Metallovedenie i Termicheskaya Obrabotka Metallov (USSR) 1960, no. 1, p. 31-35.
**Other translations are available elsewhere.

DESCRIPTORS: *Borides, Boron compounds, Silicon compounds, *Crystal structure, X-rays, Determination, Heat of formation, Transition elements, Metal forming presses, Sintering, Metal powder, Powder metallurgy.

Contents:
X-ray determination of the SiB_6 structure, by N. N. Yuravlev
**On the problems of the chemical compounds of boron with silicon, by G. V. Samsonov and V. P. Latischeva
Heats of formation of borides of some transition metals, by G. V. Samsonov
**Pressing and sintering of boride powders, by B. N. Babich, K. I. Portnoi and G. V. Samsonov.

REFERATIVNYI ZHURNAL. METALLURGIYA (USSR) 1961, NOS. 1-2, ABSTRACTS 1A39-2J115: SELECTED TRANSLATIONS OF ABSTRACTS OF ARTICLES BY CHINESE AUTHORS PERTAINING TO COMMUNIST CHINA (Soviet Abstracts, Metallurgy). 27 Dec 61 [66]p. JPRS: 11626.
Order from OTS or SLA $6.60 62-15238

Complete translations of the Russian-language abstracts of articles originally published in the Sino-Soviet bloc.

DESCRIPTORS: *Metallurgy, Abstracting, Periodicals, *Metals, Processing, Arc welding, Welding, Smelting, Casting, Blast furnaces, Electric arcs, Open hearth furnaces, Rolling mills, Heating, Heat treatment.

SPECIAL STEELS AND ALLOYS: SELECTED ARTICLES. 27 Feb 61 [106]p. (49 figs. 10 tables omitted) 12 refs. MCL-711; AD-261 772.
Order from OTS or SLA $9.10 61-27321

Unedited rough draft trans. of [Tsentral'nyi Nauchno-Issledovatel'skii Institut Chernoi Metallurgii. Institut Stali] Sbornik Trudov (USSR) 1960, v. 17, p. 327-357, 398-418, 472-488.

DESCRIPTORS: *Steel, *Alloys, Abstracting, Nickel alloys, Molybdenum alloys, Barium, Calcium, Structures, Transformations.

Contents:
Properties and peculiarities of special alloys with high nickel and molybdenum content, by Yu. M. Chizhikov
The effect of barium and calcium on the "life" of nichromes, by M. V. Pridantsev and A. V. Merlina
Alloys replacing molybdenum in the radio industry, by D. A. Teimer
Structural transformations in nickel-base alloys, by L. N. Zimina and M. V. Pridantsev.

Babich, B. N., Portnoi, K.I., and Samsonov, G. V.
COMPACTING AND SINTERING OF BORIDE POWDERS. Feb 62.
Order from HB $3.25 HB-5301

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 1, p. 31-35.

DESCRIPTORS: Titanium compounds, *Borides, Chromium compounds, *Metal powders, Powder metallurgy, *Sintering.

Bashenko, V. V.
METAL WELDING BY ELECTRON BEAM. 21 Aug 61 [22]p. (8 figs. omitted) 16 refs. MCL-1171.
Order from OTS or SLA $2.60 62-13173

Unedited rough draft trans. of #Svarochnoe Proizvodstvo (USSR) 1961, no. 1, p. 34-37.

DESCRIPTORS: *Metals, *Welding, *Electron beams, Vacuum apparatus, Electron guns.

Bucken, H. and Steinecke, V.
STUDIES ON THE PERFORMANCE OF CONTINUOUS ROLLING-MILL TRAINS. Feb 62.
Order from BISI £5 15s BISI-2423

Trans. of Stahl [und] Eisen (West Germany) 1960, v. 80, 15 Sep, p. 1261-1268.

DESCRIPTORS: *Rolling mills, *Railroad cars.

Burtsev, V. T., Samarin, A. M. and others.
DEVICE FOR WORKING LIQUID METAL. 3 Oct 61 [4]p. MCL-965/1+2; AD-265 660.
Order from OTS or SLA $1.10 62-13068

Unedited rough draft trans. of #Byulleten' Izobretenii (USSR) 1960, no. 13, p. 49 (USSR [patent appl.] announcement no. 630426/22, 8 June 59).

DESCRIPTORS: *Liquid metals, Vacuum apparatus, Pumps, Cast iron, Liquid metal pumps.

The device is made in the form of a vacuum chamber with two vertical channels, through which the metal is pumped with the aid of an induction pump. It is characterized in that, for the purpose of increasing the free surface of the metal being worked by spraying it

in a stream, the length of the channels is made greater than the height of the column of metal raised up as a result of the difference between the atmospheric pressure and the pressure in the chamber, so that after the induction pump is switched on, the metal is poured from one channel into the other across the threshold of the vacuum chamber.

Chernovol, A. V. and others.
EFFECT OF CALCIUM ON THE GRAPHITE STRUCTURE IN IRON-CARBON-SILICON ALLOYS. Feb 62, 1100 words.
Order from HB $3.40 HB-5464

Trans. of Akademiya Nauk URSR [Kiev]. Dopovidi, 1961, no. 7, p. 911-914.

DESCRIPTORS: *Calcium, *Iron alloys, *Carbon alloys, *Silicon alloys, Microstructure.

Dumitrascu, P. and Ispas, M.
REDUCTION OF IRON ORES WITH METHANE IN A FLUID BED AND BY CYCLONE SMELTING. Feb 62, 4900 words.
Order from HB $14.70 HB-5283

Trans. of [Academia Republicii Populare Romine. Centrul de Cercetari Metalurgice]. Studii si Cercetari[i] de Metalurgie (Rumania) 1960, v. 5, no. 3, p. 371-390.

DESCRIPTORS: *Iron, *Ores, *Reduction, Methanes, *Fluidized solids, Cyclone furnaces, *Smelting.

Eichenauer, W.
THE DIFFUSION AND SOLUBILITY OF HYDROGEN IN METALS. Mar 62.
Order from BISI £2 10s BISI-2644

Trans. of Rev[ue de] Met[allurgie]. Mem[oires] Sci[entifiques] (France) 1960, v. 57, Dec, p. 943-948.

DESCRIPTORS: *Metals. *Hydrogen, Solubility, Diffusion.

Eremenko, V. N. and Natanzon, Ya. V.
VARIATION IN ELECTRICAL CONDUCTIVITY OF METAL POWDERS DURING SINTERING. Feb 62.
Order from HB $3.00 HB-5303

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 1, p. 39-42.

DESCRIPTORS: *Powder metals, Powder metallurgy, *Electrical conductance, *Sintering.

Fellcht, K.
WHAT REACTIONS CAUSE FROTHING OF SLAG IN THE BASIC OPEN-HEARTH (PROCESS). Mar 62.
Order from BISI £7 BISI-2537

Trans. of Metallurgie (Germany) 1955, v. 5, Mar, p. 85-102.

DESCRIPTORS: *Slags, Open hearth furnaces, Surface tension.

Filippov, A. N.
ALUMINUM-BASE METAL POWDER MATERIALS. Feb 62.
Order from HB $2.00 HB-5302

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 1, p. 36-38.

DESCRIPTORS: *Powder metals, Powder metallurgy, *Aluminum alloys, Dies, Sintering.

Gerold, V. and Haberkorn, H.
X-RAY INVESTIGATION OF COLD AGEING IN Al-Mg-Cu AND Al-Mg-Zn ALLOYS. [1961] [21]p. 14 refs.
Order from SLA $2.60 62-10590

Trans. of Zeit[schrift] für Metallkunde (West Germany) 1959, v. 50, no. 10, p. 568-574.

DESCRIPTORS: *Aluminum alloys, *Magnesium alloys, *Copper alloys, *Zinc alloys, Aging, X-ray diffraction analysis, Crystal structure, Lattices.

Ignat'ev, V. I. and Zverev, N. I.
THE SEDIMENTATION OF AEROSOL PARTICLES ON CYLINDERS (Osazhdenie Chastits Aerozolya na Tsilindre) tr. by C. Fulford. Jan 61, 6p. 8 refs. [DSIR NLL] M. 4629.
Order from OTS or SLA $1.10 62-15703

Unedited trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1960, v. 3, no. 12, p. 17-23.

DESCRIPTORS: *Particles, Aerosols, *Sedimentation, Gas flow, Boundary layer, Particle trajectories, *Cylindrical bodies, Collecting methods, *Metal powders.

Experimental data are given on the collection of aerosol particles on cylinders, together with an evaluation of the data by means of the similarity criteria governing the process. (Author)

Krächter, H.
NON-DESTRUCTIVE TESTING OF TUBES, LIMITATIONS OF THE METHODS AND INTERPRETATIONS OF TEST RESULTS. Mar 62.
Order from BISI £3 BISI-2619

Trans. of Materialprüfung (West Germany) 1960, v. 2, 20 July, p. 253-257.

DESCRIPTORS: *Non-destructive testing, Quality control, *Pipes.

Krichevskii, I. R. and Khazanova, N. E.
NITRERING VAN IJZER DOOR MOLECULAIRE STIKSTOF BIJ LAGE DRUKKEN. VOORLOPIGE MEDEDELING (Nitriding Iron by Molecular Nitrogen at High Pressure) tr. by G. J. M. Fritschy. 3p. MTWL: 118. (text in Dutch).
Order from OTS or ETC $1.40 61-17743

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1945, v. 19, p. 676.

DESCRIPTORS: *Iron, Nitrogen, *Nitration, High pressure research.

Mikhailov, V. A., Zmushko, L. M., and Lazarev, A. G.
A DEVICE FOR MEASURING THE TEMPERATURE AND SAMPLING MOLTEN METAL. 6 Oct 61 [5]p. MCL-1113/1+2; AD-265 686.
Order from OTS or SLA $1.10 62-13067

Unedited rough draft trans. of #Byulleten' Izobretenii (USSR) 1960, no. 15, p. 59.

DESCRIPTORS: Temperature, Measurement, *Metals, Melting, Sampling, Thermocouples, *Slags.

A device is described for measuring the temperature and sampling of molten metal at various levels along the depth of a bath by using fusible plugs in the samplers. To assure simultaneous measurement of temperature and sampling of metal at the same point, the device is made in the form of a lined metallic pipe, along the height of which graphite sampler blocks and shielded blocks for thermocouples are assembled in pairs, at various levels; electrical contacts are installed in the samplers, signaling when the sampler is filled with molten metal. (Author)

Novokreshchenov, P. D. and Markova, N. E.
APPARAAT VOOR DE BEPALING VAN DE TORSIE VAN KLEINE METAALMONSTERS (Apparatus for Determining the Torsion of Small Metal Samples) 5p. MTWL: 196. (text in Dutch).
Order from OTS or ETC $1.40 61-17820

Trans. of Zavodskaya Laboratoriya (USSR) 1948, v. 14, p. 887-888.

DESCRIPTORS: *Metals, Quality control, *Torsion meters, Measurements.

Pataki, Balazs.
RESULTS OF RESEARCH ON MANGANESE-ZINC FERRITES IN HUNGARY. 28 Feb 61 [8]p. (11 figs. omitted). JPRS: 6845.
Order from OTS or SLA $1.10 62-19245

Trans. of Magyar Hiradastechnika (Hungary) 1960, v. 11, no. 3, p. 104-107.

Portions of this report will not reproduce well.

DESCRIPTORS: *Ferrites, *Zinc alloys, *Manganese alloys, Magnetic properties, Hungary.

This article deals with Hungarian ferrite research achievements in connection with the soft ferrites. It describes the effects of various factors upon magnetic properties. The electron microscopic investigations and the measured values of magnetic characteristics prove that Mn-Zn ferrites have been successfully produced which are equal to the best recognized foreign material. (Author)

Pinkas, Karol.
INVESTIGATION OF THE POSSIBILITY OF RECOVERING OTHER VALUABLE METALS OCCURRING TOGETHER WITH URANIUM ORES. 8 Dec 61 [10]p. JPRS: 11423.
Order from OTS or SLA $1.10 62-19538

Trans. of Nukleonika (Poland) 1961, v. 6, no. 2, p. 127-133.

DESCRIPTORS: *Uranium, *Ores, Metals, Copper, Recovery, Chemical engineering.

It was shown that copper, as well as uranium, can be recovered in the course of processing Polish carbonaceous uranium ore with dilute sulfuric acid and ferric sulfate. The copper was obtained by precipitation from the sulfuric acid solution by means of iron or zinc scrap. The proposed process flowsheet for the ore consists of leaching with dilute sulfuric acid and ferric sulfate, precipitation by scrap iron, and separation of the uranium by extraction with amines. The method affords a means of reducing the production cost of sodium diuranate, and opens up the possibility of an economical way of extracting other valuable metals. (Author)

Rodionov, Yu. I.
EQUIPMENT FOR THE BRIGHT ANNEALING OF WIRE DURING HIGH-SPEED COLD DRAWING. Feb 62.
Order from HB $2.00 HB-5308

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 1, p. 52-53.

DESCRIPTORS: *Wire, Annealing, Drawing (Machine processing).

Samsonov, G. V.
SINTERING OF W-Ti-Co CARBIDES IN VACUUM. Feb 62.
Order from HB $2.00 HB-5299

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 1, p. 25-27.

DESCRIPTORS: *Carbides, Cobalt compounds, Titanium compounds, Tungsten compounds, Sintering, Vacuum apparatus.

Shchurovskii, V. G.
EXTRACTION OF COPPER FROM SLAGS BY THE SULPHIDIZING METHOD (Vydelenie Medi iz Shlakov Metodom Sul'fidizatsii). Sep 61 [12]p. 6 refs. RTS 1864.
Order from OTS or SLA $1.60 61-28166

Trans. of A[kademiya] N[auk] Kazakhskoi SSR [Alma-Ata]. Institut Metallurgii i Obogashcheniya. Trudy, 1959, v. 1, p. 46-52.

DESCRIPTORS: *Copper, Separation, *Slags, Sulfides, Lead, Metallurgy.

Experiments on the sulphidizing of refuse slags from a lead works show that in principle this method can also be used for reducing the concentration of copper and lead in refuse slags. But poor mattes will be obtained and the process of sulphidizing the slag must be accompanied by heating. For this reason the treatment of refuse slags of lead works by sulphidizing can be used only in combination with the fuming process after driving the lead and zinc out of them. In that case if a certain amount of elemental sulphur or pyrites is blown through the slag, the copper remaining in the slag can be removed as a poor matte. When the vapour of elemental sulphur is passed through molten slag, the utilization of the sulphur is sufficiently complete.

Sklyarenko, S. I. and Lavrov, I. I.
ELECTROLYTIC PRODUCTION OF INDIUM-THALLIUM SUPERCONDUCTING ALLOY COATINGS.
13 Nov 61 [11]p. 7 refs. FTD-TT-61-156; AD-267 740
Order from OTS or SLA $1.60 62-13574

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Tsvetnaya Metallurgiya (USSR) 1961 [v. 4] no. 4, p. 139-144.

DESCRIPTORS: *Indium alloys, *Thallium alloys, *Electrolytes, *Superconductivity, *Coatings, Production, Polarization, Temperature.

Polarization curves were obtained for the deposition of indium, thallium, and their alloy, as well as curves for the liberation on the alloy surface of hydrogen from the sulfamate baths at different concentrations of indium and thallium in the electrolyte. The alloy has a stable superconductivity at low temperatures and anticorrosion properties in a medium with a high humidity and elevated temperature.

Takeuchi, E.
THE WEAR PHENOMENON OF HEAT-TREATED TITANIUM CAST IRON WITH EUTECTIC GRAPHITE STRUCTURE. [1962] 9p.
Order from ATS $18.95 ATS-37N58J

Trans. of Imono (Japan) 1961, v. 33, no. 4, p. 271-27

DESCRIPTORS: *Cast iron, *Titanium, Castings, Heat treatment, Friction, Structures, Graphite, Eutectics

Tardieu, Pierre and Perières, René.
PRODUCTION OF ALUMINA FROM BAUXITE THAT IS HIGH IN SILICA. [1961] 4p.
Order from OTS or SLA $1.10 62-10758

Trans. of German patent 1,068,682, by Pechiney Compagnie de Products Chimiques et Electrometallurgiques, France, appl. 30 July 57, pub. 12 Nov 59, issued 28 Apr 60 (claimed priority, France 31 July 56).

DESCRIPTORS: *Aluminum compounds, *Oxides, Production, *Bauxite, Silicon compounds, Dioxides.

A low-shaft furnace is used for the production of alumina from silica-rich bauxite, into which furnace cold, oxygen-enriched air is blown, and which furnace is used for melting a mixture consisting of 4-6 parts bauxite, 5-8 parts coal and 2-3 parts pyrite, where the portion of pyrite in the mixture increases as the shaft becomes narrower.

Timerbulatov, M. G. and Bocharnikov, N. F.
CAVITATION RESISTANCE OF COPPER-BASED ALLOYS. Feb 62.
Order from HB $2.50 HB-5293

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab-[otka] Met[allov] (USSR) 1960, no. 1, p. 5-10.

DESCRIPTORS: *Copper alloys, Cavitation, Resistance, Microstructure.

Yakushev, A. M., Yavoiskii, V. I., and Kryakovskii, Yu. V.
EFFECT OF RARE-EARTH METALS ON THE SOLUBILITY OF HYDROGEN IN LIQUID IRON.
Feb 62, 4400 words.
Order from HB $12.75 HB-5346

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1961, no. 7, p. 44-54.

DESCRIPTORS: Steel industry, *Rare earth elements, Liquid metals, *Iron, Hydrogen, Solubility.

Ferrous Metals

DATA SHEET ON HOT STRENGTH STEEL. Feb 62.
Order from HB $2.00 HB-5309

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 1, p. 61-64.

DESCRIPTORS: *Steel, Heat treatment, Mechanical properties, Temperature.

PROGRESSIVE FORGING PRACTICE: SELECTED ARTICLES. 13 Sep 61 [44]p. (25 figs. omitted).
MCL-1385. AD-265 735.
Order from OTS or SLA $4.60 62-13305

Unedited rough draft trans. of mono. Peredovoi Opyt Kovki, Len[ingrad] 1959, p. 79-87, 96-102, 116-133.

DESCRIPTORS: Forging, *Metal forming presses, *Steel castings, *Forge presses, Industrial equipment, Hydrostatic pressure, Manufacturing methods, Machine tools, *Steel industry.

Contents:
Hot pressing of steel ingots instead of forging, by Yu. F. Chernyi
Forging of large size forged pieces with reduced F. A. O. and minimum deviations from given dimensions, by N. F Misyagin
Exploitation of a hammering (forging) press with 1200 ton pressure, by B. A. Trifonov.

Astaf'ev, A. A.,[Minasaryan, A. A., and Kondrashev, A. I.]
PRACTICES FOR THE COOLING OF (LARGE) FORGINGS FROM TEMPERING TEMPERATURE. Feb 62.
Order from HB $2.50 HB-5317

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 2, p. 42-47.

DESCRIPTORS: *Steel, *Forging, Heat treatment, Cooling, Stresses, Temperature, Mechanical properties.

Babakov, A.A. and Kareva, E. N.
STABILIZING ANNEALING AND ITS EFFECT ON THE CORROSION-RESISTANCE OF 1Kh18N9T STEEL (Stabiliziruyuschchii Otzig i Vliyanie Ego na Korrozionnuyu Stoikost' Stali 1Kh18N9T). Apr 61 [40]p. (foreign text included) 3 refs. [DSIR NLL] M. 3273.
Order from OTS or SLA $3.60 62-15370

Trans. of Tsentr[al'nyi] Nauch[no-]issled[ovatel'skii] Inst[itut] Chernoi Met[allurgii. Institut Stali. Sbornik Trudov] (USSR) 1960, v. 17, p. 204-227.
Another trans. is available from BISI £7 5s as BISI-2123, July 61.

DESCRIPTORS: *Steel, *Corrosion inhibition, Annealing, Mechanical properties, Heat treatment, *Stainless steel.

The use of stabilizing annealing for 1 to 5 hr. at 850-900°C for hot- or cold-rolled steel 1Kh18N9T ensures that mechanical properties are obtained that are similar to those produced by the standard heat-treatment of steel (quenching). With such heat-treatment, should welds be produced in the steel, conditions are created under which grain growth in the steel occurs slowly and the harmful effect of tempering on quenched steel is less pronounced. Heat-treatment consisting in stabilizing annealing may be applied to steel 1Kh18N9T, which fully satisfies the GOST standard requirements (5632-51, 5582-50, 6032-51) as regards composition and resistance to intergranular corrosion. Investigation of the solubility of titanium carbides in steel 1Kh18N9T under different conditions of quenching (from 1000, 1100, 1200 and 1300°C) and subsequent tempering at 800 and 650°C for 2 hr. showed that quenching temperatures above 1100°C results in pronounced dissolution of titanium carbides in austenite, as a result of which the amount of effective titanium, combined in the form of TiC, is greatly reduced; supplementary tempering at 800 and 650°C of previously-quenched steel slightly increases the amount of titanium combined in the form of carbides. (Author)

Belyanchikov, L. N., Grigorash, R. N., and Panov, A. V.
BEHAVIOR OF GASES IN THE VACUUM ARC MELTING OF STEEL [Povedenie Gazov pri Vakuumnoi Dugovoi Plavke Stali]. Feb 62, 2800 words.
Order from HB $7.25 HB-4691

Trans. of Nauchnye Doklady Vyssh[ei] Shkoly. Metallurgiya (USSR) 1959, no. 2, p. 48-56.

DESCRIPTORS: *Steel, Melting, Gases, Electric arcs, Vacuum apparatus.

Braun, M. P. [Kostyrko, O. S.] and others.
RATIONAL HEAT TREATMENT CONDITIONS FOR HOT-ROLLING ROLLS. Feb 62.
Order from HB $3.00 HB-5318

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 2, p. 48-52.

DESCRIPTORS: *Steel, Rolling mills, Heat treatment.

Dolinskaya, L. A.
RAILROAD CAR WHEELS QUENCHED IN VERTICAL POSITION AFTER FURNACE HEATING. Feb 62.
Order from HB $2.75 HB-5320

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 2, p. 58-61.

DESCRIPTORS: *Railroads, *Vehicle wheels, Induction heating, Mechanical properties, Steel

Gerkan, W. von.
THE INFLUENCE OF MATERIAL AND INTERNAL STRESSES ON THE LIFE OF STEEL INGOT MOULDS. Mar 62.
Order from BISI £7 BISI-2453

Trans. of Stahl [und] Eisen (West Germany) 1961, v. 81, 31 Aug, p. 1192-1202.

DESCRIPTORS: *Steel castings, Molding, Molding materials, Stresses

Hansen, H. H.
MOTOR VEHICLE PRODUCTION AND THE MOTOR INDUSTRY'S IMPORTANCE AS A CONSUMER OF IRON AND STEEL. Feb 62.
Order from BISI £3 BISI-2543

Trans. of Stahl [und] Eisen (West Germany) 1961, v. 81, 14 Sep, p. 1305-1308.

DESCRIPTORS: *Vehicles, Production, Automotive industry, *Iron, *Steel, Consumption

Hara, Z.
THE RATE OF REDUCTION OF IRON ORES IN A FLUIDIZED BED. [1961] 4p.
Order from ATS $5.00 ATS-53P58J

Trans. of Seisan Kenkyu (Japan) 1958, v. 10, no. 12, p. 400-401.

DESCRIPTORS: *Iron, Ores, Reduction, Fluidized solids.

Hasebe, Shigeo.
EFFECT OF ALUMINUM NITRIDE ON CRACK SENSITIVITY OF THE HEAT-AFFECTED ZONE IN WELDED STEEL. Feb 62, 1000 words.
Order from HB $3.00 HB-5556

Trans. of Tetsu to Hagane (Japan) 1960, v. 46, no. 10, p. 1286-1289.

DESCRIPTORS: *Aluminum compounds, *Nitrides, Fracture (Mechanics), *Steel, Heat treatment, Welding.

Kiesel, K-L.
MEASUREMENT OF E.M.F. BETWEEN SLAG AND STEEL BATH AND ITS APPLICATION TO OPEN-HEARTH PROCESS CONTROL. Mar 62.
Order from BISI £5 10s BISI-2616

Trans. of Neue Hutte (East Germany) 1961, v. 6, Mar, p. 157-166.

DESCRIPTORS: *Slags, Open hearth furnaces, *Steel.

Kootz, T. and Neuhaus, H.
CONTRIBUTION TO THE KINETICS OF THE CONVERTER PROCESS. II. THE (BASIC) OXYGEN FURNACE PROCESS. Feb 62.
Order from HB $9.65 HB-5468

Trans. of Stahl und Eisen (West Germany) 1961, v. 81, no. 26, p. 1810-1815.

DESCRIPTORS: *Steel, Production, *Oxygen, Blast furnaces.

Kurdyumov, G. V. and Maksimova, O. P.
DE KINETICA VAN DE OMZETTING VAN AUSTENIET IN MARTENSIET BIJ LAGE TEMPERATUREN (Kinetics of the Transformation of Austenite into Martensite at Low Temperatures) tr. by J. H. van Santen. 7p. 3 refs MTWL: 182. (text in Dutch).
Order from OTS or ETC $1.55 61-17828

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 61, p. 83-86.

DESCRIPTORS: *Austenite, *Martensite, Low temperature research, Phase studies, *Transformations.

Nekrasov, Z. I., Krasavtsev, N. I., and Chekhranov, V. D.
INVESTIGATIONS AT THE INSTITUTE FOR IRON METALLURGY ACAD. NAUK. UKRAINE. Mar 62.
Order from BISI £2 15s BISI-2236

Trans. of Stal' (USSR) 1957 [v. 17] no. 5, p. 468-469

DESCRIPTORS: *Iron, Metallurgy, Blast furnaces.

Nikolaev, A. N.
POROUS AND NON-POROUS STRIP FROM IRON POWER. Feb 62.
Order from HB $3.00 HB-5300

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 1, p. 28-31.

DESCRIPTORS: *Iron alloys, *Powder metallurgy, Powder metals, Rolling mills, Porosity.

OTS SB-489 $0.10

Office of Technical Services, Dept. of Commerce, Washington, D. C.
OXYGEN STEEL MAKING. FOREIGN LITERATURE. Feb 62, 11p. 115 refs. OTS Selective Bibliography SB-489.
Order from OTS $0.10 OTS SB-489

DESCRIPTORS: *Bibliography, Translations, *Steel, Processing, *Oxygen, Metallurgy, Copper, Lead, Smelting.

Lists 115 translations of foreign reports available to February 1962 on the metallurgy of oxygen top-blowing processes; the Kaldo, L-D and other processes; dust removal and treatment of waste gases; bottom-blown converters; arc, rotary, reverberatory, and basic oxygen furnaces; oxygen processes in smelting copper, and lead among other subjects.

Plusquellec, Jacques, Azou, Pierre, and Bastien, Paul.
THE INFLUENCE OF CHARGING TIMES AND STORAGE AT ROOM TEMPERATURE ON THE HYDROGEN EMBRITTLEMENT OF STEELS. [1961] [4]p. 4 refs.
Order from SLA $1.10 62-10537

Trans. of Academie des Sciences [Paris]. Comptes Rendus (France) 1958 [v. 246, no. 25] p. 3454-3457. (pub. by Gauthier-Villars et Cie; Paris).

DESCRIPTORS: *Steel, *Hydrogen embrittlement, Mechanical properties, Machining, Electrolytic polishing.

The steel tested had a carbon content of 0.08%. The capacity for deformation was lowered by the presence of hydrogen. Generally speaking, the reduction in area value decreases with an increase in charging time. Two anomalies exist, however, at maximum embrittlement, which appear when the charging period is between 8 and 32 hours. The first appears when the storage period is less than 10 minutes and the second occurs 1 1/2 hours after charging. The embrittlement reaches a limit during prolonged charging periods (maximum period studied, 100 hrs.). By increasing the storage time at room temperature, the embrittlement becomes progressively less.

Pogodina-Alekseeva, K. M.
RELATIONSHIP BETWEEN ARTIFICIAL AGING OF TECHNICALLY PURE IRON AND PRELIMINARY PERIOD OF AGING AT ROOM TEMPERATURE. Feb 62.
Order from HB $2.00 HB-5311

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 2, p. 7-10.

DESCRIPTORS: *Iron, Aging, Temperature.

Ravizza, P.
INVESTIGATION INTO THE EFFECT OF VIBRATIONS ON THE SOLIDIFICATION OF STEEL INGOTS. Feb 62, 3100 words.
Order from HB $7.75 HB-5458

Trans. of la Metallurgia Italiana, 1960, v. 52, no. 12, p. 795-800.

DESCRIPTORS: *Steel castings, *Cast steel, Castings, Vibration.

Richling, W.
ELECTRO-SLAG REMELTING; A NEW PROCESS FOR THE PRODUCTION OF STEEL INGOTS OF HIGH QUALITY. Mar 62.
Order from BISI £ 6 5s BISI-2608

Trans. of Neue Hütte (East Germany) 1961, v. 6, Sep, p. 565-572.

DESCRIPTORS: *Steel castings, *Slags, Melting.

Sazonova, N. D.
EFFECT OF STRAIN HARDENING ON CREEP CHARACTERISTICS OF AUSTENITIC STEELS. Feb 62, 1200 words.
Order from HB $3.60 HB-4358

Trans. of Metallodevenie i [Termicheskaya] Obrabotka Metallov (USSR) 1958, no. 9, p. 46-49.

DESCRIPTORS: *Steel, *Austenite, *Creep, Hardening

Shvartsbart, Ya. S.
DUCTILITY OF GRAIN-ORIENTED SILICON STEEL IMPROVED. Feb 62.
Order from HB $2.50 HB-5312

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 2, p. 11-13.

DESCRIPTORS: *Steel, Silicon, Grains (Metallurgy), Plasticity, Transformers

Signora, M., Cardano, R., and Toni, L.
THE MANUFACTURE OF FORGING INGOTS AT THE TERNI STEELWORKS. Mar 62.
Order from BISI £4 5s BISI-2521

Trans. of mono. (paper) presented at the Conference on Heavy Forging, Terni, Sep 61.

DESCRIPTORS: *Steel industry, *Castings, *Forging, Manufacturing methods.

Smol'nikov, E. A.
CORRECT THROUGH-HEATING TIMES FOR STEEL COMPONENTS IN SALT BATHS. Feb 62.
Order from HB $3.00 HB-5319

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 2, p. 53-58.

DESCRIPTORS: *Tool steel, Heating, Calorimeters, Metallurgical analysis, Steel.

Solov'ev, N. A.
SURFACE SULFURIZING OF IRON-BASE COMPONENTS IN HYDRO(GEN) SULFIDE SOLUTIONS. Feb 62.
Order from HB $2.00 HB-5306

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 1, p. 47-48.

DESCRIPTORS: Surfaces, Impregnation, Sulfur, *Iron, *Steel, Hydrogen compounds, Sulfides, Solutions

Stoll, H.
EXPERIENCE WITH THE DEPOSIT WELDING OF STEEL ROLLING MILLS BY THE SUBMERGED ARC PROCESS. Mar 62.
Order from BISI £6 15s BISI-1831

Trans. of Stahl [und] Eisen (West Germany) 1960, v. 80, 14 Apr, p. 483-491.

DESCRIPTORS: *Steel, *Rolling mills, *Arc welding.

Taran, V. D. and Skugorova, L. P.
BORONIZING OF ELECTROPLATED STEEL. Feb 62.
Order from HB $2.50 HB-5292

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 1, p. 2-5.

DESCRIPTORS: *Steel, *Electroplating, *Boron steel.

Timmerbeil, H., Clas, G., and Mattern, O.
THE THERMAL STABILITY OF CAST-IRON AND THE EFFECT OF VARIOUS ALLOYING ELEMENTS (Die Thermische Beständigkeit von Gusseisen und der Einfluss Verschiedener Legierugselemente). [1961] [29]p. (foreign text included) 9 refs.
Order from SLA $2.60 62-10533

Trans. of Giesserei (West Germany) 1951, v. 38, p. 476-482 (Verein Deutscher Giessereifachlente, Bericht 5).

DESCRIPTORS: *Cast iron, *Refractory coatings, *Heat resistant alloys, Carbides, Pearlite, Phosphorus, Silicon, Aluminum, Chromium, Carbon, Alloys, Scale

Tix, A.
PROGRESS IN VACUUM STREAM DEGASSING OF STEEL AT BOCHUMER VEREIN. Feb 62.
Order from HB $11.75 HB-5435

Trans. of Techn[ische] Mitteilungen Krupp (West Germany) 1961, v. 19, no. 3, p. 122-129.

DESCRIPTORS: *Steel, Gases, Reduction, Vacuum apparatus, Forging, Casting, Rolling mills, Degasification.

Vyshkovskii, Yu. G.
EFFECTS OF TEMPERATURE OF WATER AND AQUEOUS SOLUTIONS ON QUENCH CRACKING. Feb 62.
Order from HB $2.50 HB-5315

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 2, p. 32-37.

DESCRIPTORS: *Steel, Heat treatment, Fracture (Mechanics).

Wilmes, S.
TOUGHNESS STUDIES ON HIGH-SPEED TOOL STEELS. Mar 62.
Order from BISI £7 5s BISI-2591

Trans. of Stahl [und] Eisen (West Germany) 1961, v. 81, 11 May, p. 676-684.

DESCRIPTORS: *Tool steel, Mechanical properties

Yushkevich, P. M.
CHANGES IN THE FINE STRUCTURE OF THE AUSTENITE RETAINED WHEN HIGH-SPEED STEEL IS TEMPERED. Feb 62.
Order from HB $2.50 HB-5313

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 2, p. 14-20.

DESCRIPTORS: *Steel, *Austenite, Structures, Hardening, Heat treatment, Crystal structure.

Zhetvin, N. P. [Podvoiskii, L. N., and Krylova, L. I.
INVESTIGATION OF THE KINETICS OF SURFACE DECARBURIZATION OF BALL-BEARING STEEL WHEN HEAT TREATED. Feb 62.
Order from HB $2.50 HB-5316

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 2, p. 37-42.

DESCRIPTORS: *Steel, Heat treatment, Ball bearings.

Light Metals

Eskin, G. I. and Fridlyander, I. N.
ACTION OF ULTRASONIC VIBRATIONS ON THE SHAPE AND DIMENSIONS OF INTERMETALLIC COMPOUND CRYSTALS IN ALUMINUM ALLOYS. Feb 62, 1600 words.
Order from HB $3.80 HB-5460

Trans. of Akad[emiya] Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvest[iya]: Met[allurgiya] i Topl[ivo] 1961, no. 5, p. 109-112.

DESCRIPTORS: Intermetallic compounds, *Aluminum alloys, Crystals, *Ultrasonics, Vibration, Liquid metals.

Mingin, T. E. and Shul'kin, S. M.
POSSIBILITIES FOR UTILIZATION OF SECOND-GRADE TITANIUM SPONGE. 28 Aug 61 [15]p. (6 figs. 4 tables omitted) 3 refs. MCL-1013/1.
Order from OTS or SLA $1.60 62-13177

Unedited rough draft trans. of Metallurgiya: Sbornik Statei (USSR) 1959, v. 2, p. 294-302.

DESCRIPTORS: *Titanium, Chemical analysis, Mechanical properties, *Specifications.

Metal melted from grade TG-2 sponge may be recommended for non-critical parts, where toughness not exceeding 4 kgm/cm^2 may be employed.

Popov, O. V. and Moskalev, M. A.
COOLING RATES IN THE HARDENING OF COMPONENTS OF ALUMINUM ALLOY SHEET. Feb 62.
Order from HB $2.50 HB-5305

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 1, p. 45-47.

DESCRIPTORS: *Aluminum alloys, Sheets, Heat treatment.

Nonferrous (except light) Metals

Arzhanyi, P. M., Volkova, R. M., and Prokoshkin, D. A.
AN INVESTIGATION OF THE STRUCTURE AND PHASE COMPOSITION OF A SILICON DIFFUSION COATING FOR NIOBIUM. 28 Aug 61 8p. (4 figs. omitted) 6 refs. MCL-1023. AD-265 674.
Order from OTS or SLA $1.10 62-13171

Unedited rough draft trans. of Issledovaniya po Zharoprochnym Splavam (USSR) 1960, v. 6, p. 201-205.

DESCRIPTORS: *Niobium, *Silicon coatings, Diffusion, Structures, Phase studies, Temperature, Stability.

The parameters of diffusion of silicon into niobium D_t, D_0 and Q have been computed. At saturation temperature up to 1300°, phases of the following composition are developed on the surface of the niobium: $NbSi_2$, $Nb5Si_3$, and Nb_4Si.

Okunev, A. I. and Ryabov, Yu. F.
THE BEHAVIOUR OF GERMANIUM DURING PYROMETALLURGICAL TREATMENT OF COPPER ORES AND CONCENTRATES (Povedenie Germaniya pri Pirometallurgicheskoi Pererabotke Mednykh Rud i Kontsentratov) tr. by E. Feigl. [1961] [20]p. (foreign text included) 9 refs. [CSIRO] Trans. no. 5427.
Order from OTS or SLA $1.60 62-13604

Trans. of Tsvetnye Metally (USSR) 1958, v. 31, no. 7, p. 78-84.

DESCRIPTORS: *Germanium, *Copper, *Ores, Slags, Metallurgical analysis, Smelting.

Structural Metallurgy and Corrosion

Babakov, A. A., Tufanov, D. G., and Sabinin, A. A.
CORROSION OF STEELS IN SEA WATER (Korroziya Stalei v Morskoi Vode). Apr 61 [36]p. (foreign text included) 5 refs. [DSIR NLL] M. 3275.
Order from OTS or SLA $3.60 62-15368

Trans. of Tsentr[al'nyi] Nauch[no-] Issled [ovatel'skii Inst[itut] Chernoi Met[allurgii. Institut Stali] Sbornik Trudov. (USSR) 1960, v. 17, p. 228-246.

DESCRIPTORS: *Steel, *Corrosion, Corrosion inhibition, *Sea water.

A study was made of the kinetics and of the effects of C, Cr, Al, Ti, P, and Cu additions on the corrosion of steels in sea water (splash and immersion zones) and in sea atmosphere. The best corrosion-resistant steels are indicated, on the basis of potential measure ments and exposure tests. The rates of corrosion of carbon and low-alloy steels in sea water and sea are practically identical.

Bobylev, A. V.
MICROHARDNESS OF Cu-Ni-Mn ALLOY REDUCED BY ETCHING REAGENTS. Feb 62.
Order from HB $2.00 HB-5304

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 1, p. 43-44.

DESCRIPTORS: *Copper alloys, *Nickel alloys, *Magnesium alloys, Microstructure, Reduction, Photoengraving, Reagents

Gerasimov, V. V. and Popova, K. A.
INTERCRYSTALLINE CORROSION OF 18-8 Ti STEEL IN STEAM. Feb 62.
Order from HB $2.00 HB-5295

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab-[otka] Met[allov] (USSR) 1960, no. 1, p. 13-14.

DESCRIPTORS: *Steel, Titanium alloys, Crystal structure, *Corrosion inhibition, Steam, Water.

Gurvich, L. Ya. and Andreeva, A. G.
PROTECTION OF NITRIDED STAINLESS-STEEL COMPONENTS FROM CORROSION BY WATER. Feb 62.
Order from HB $2.00 HB-5294

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab-[otka] Met[allov] (USSR) 1960, no. 1, p. 10-13.

DESCRIPTORS: *Stainless steel, Nitrides, Water, *Corrosion inhibition.

Kharitonova, L. D.
INFLUENCE OF ALLOYING ELEMENTS ON THE STRENGTH OF ALUMINIUM ALLOY GRAIN BOUNDARIES AT HIGH TEMPERATURES, tr. by S. Klemantaski. 28 July 61 [11]p. 11 refs. FRI Trans. no. 162; [DSIR] NLL M. 4638.
Order from OTS or SLA $1.60 62-15710

Trans. of Metallovedenie i Termicheskaya Obrabotka Metallov (USSR) 1959, no. 3, p. 51-55.

DESCRIPTORS: *Aluminum alloys, Grains, (Metallurgy), Mechanical properties, *Copper alloys, Microanalysis, Diffusion, Heat resistant alloys, Behavior.

Tension at small loads was applied to Al-Cu bicrystal specimens in which the boundary lay perpendicularly to the direction of load application. The bicrystals were obtained by slow extraction from the melt. Tenths of a percent of manganese greatly reduced creep and increased considerably the long-term strength of aluminium-copper alloys; conversely, the same quantity of zinc increases creep and reduces long-term strength considerably. Moreover, in zinc-containing alloys an intergranular form of fracture was clearly evident, while no such effect was found in alloys with manganese. The absence of the compound $CuAl_2$ from the grain boundaries and its presence in the middle of the grain suggests that manganese to a considerable extent hinders the diffusion of copper along grain boundaries, and to a lesser extent, in the body of the grain. It may be assumed that the boundary layer of the solid solution is saturated with manganese to a greater extent than is the grain itself. A completely different situation was revealed on microanalysis of the Al + 0.48% Zn alloy after diffusion of copper. A very thick layer of the compound $CuAl_2$ was observed along grain boundaries This can be explained by the greater concentration of zinc along the boundaries than in the grain itself.

Kolomytsev, P. T.
REACTION OF BORON AND CHROMIUM IN NICKEL BASE TERNARY ALLOYS. 28 Aug 61 [10]p. (3 tables 3 figs. omitted) 4 refs. MCL-1020. AD-265 673.
Order from OTS or SLA $1.10 62-13170

Unedited rough draft trans. of Issledovaniya po Zharoprochnym Splavam (USSR) 1960, v. 6, p. 180-186.

DESCRIPTORS: *Boron, *Chromium, *Nickel alloys, Chemical reactions, Microstructure, Chemical analysis, *Heat resistant alloys.

In alloys enriched in boron, chromium boride, having a high melting point, crystallizes long before the onset of solidification of the solid solution and the nickel borides, and the formation of chromium boride is dependent not only upon the concentration of boron and chromium in the alloy, but upon the maximum temperature of the melt.

Konstantinova, E. V.
EFFECT OF AGING CONDITIONS ON THE CORROSION RESISTANCE OF (Al-Zn-Mg AND Al-Mg-Zn-Cu) ALLOYS. Feb 62.
Order from HB $3.00 HB-5297

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab-[otka] Met[allov] (USSR) 1960, no. 1, p. 17-19.

DESCRIPTORS: *Corrosion-resistant alloys, Aging, Aluminum alloys, Zinc alloys, Magnesium alloys, Copper alloys, *Corrosion inhibition.

Palatnik, L. S. and Komnik, Yu. F.
INVESTIGATION OF THE FUSION TEMPERATURE OF THIN CONDENSED LAYERS OF Sn AND Bi. [1960] 6p. 10 refs. MDF P-151.
Order from OTS $0.50 62-11511

Trans. of #Fiz[ika] Met[allov] i Metallov[edenie] (USSR) 1960, v. 9, no. 3, p. 374-378.

DESCRIPTORS: *Tin, *Bismuth, Melting, Heat of fusion, Particles, Transformations, Crystals, Temperature

The melting point of highly dispersed isolated tin and bismuth crystallites obtained by the condensation of a molecular stream in vacuo is a function of the size of the condensate crystallite. The maximum reduction in the melting point was observed at about 40°C for tin and about 55°C for bismuth. The dependence of the melting point on the size of Sn and Bi crystallites satisfies

$$\Delta T = \frac{K \Delta \sigma T_0}{L_s \rho (2r)},$$

where $K \geq 4$ is a coefficient which takes into account the deviation of the cross section from the circular shape, T_0 is the melting point of the bulk metal, L_s is the heat of fusion (per gram), ρ is the density, $2r$ is the average cross section of the particles, and $\Delta\sigma = \sigma_2 - \sigma_1$ is the change in the specific surface energy during fusion (σ_2 and σ_1 are the specific surface energies of the crystalline and liquid phases). A computation using the above equation permits the determinaion of an approximate value for the change in the specific surface energy during the fusion of crystallites in Sn and Bi condensates. (Author)

Rakhshtadt, A. G. [Rogel'berg, I. L.] and others.
EFFECT OF HEAT TREATMENT ON PROPERTIES AND STRUCTURE OF BERYLLIUM BRONZE. Feb 62.
Order from HB $6.75 HB-5314

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab-[otka] Met[allov] (USSR) 1960, no. 2, p. 20-31.

DESCRIPTORS: *Beryllium alloys, *Bronze, Heat treatment, Microstructure, Elasticity.

Shved, S. A.
CAST STEELS RESISTANT TO INTERCRYSTALLINE CORROSION. Feb 62.
Order from HB $2.50 HB-5298

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab-[otka] Met[allov] (USSR) 1960, no. 1, p. 20-24.

DESCRIPTORS: *Cast steel, Stainless steel, *Corrosion inhibition, Crystal structure.

Socha, S.
HOT DIP GALVANIZING AND ALUMINIZING OF STEEL WIRE. Feb 62, 1300 words.
Order from HB $3.90 HB-5427

Partial trans. (extract) of Prace Inst[ytutow Ministerstwa] Hutn[ictwa] (Poland) 1960, v. 12, no. 5, p. 239-247.

DESCRIPTORS: *Steel wire, Processing, *Corrosion inhibition, Coatings, Wire.

Tomashov, N. D., ed.
CORROSION AND PROTECTION OF STRUCTURAL METALS: TABLE OF CONTENTS, tr. by A. Pingell. 1962, 2p. N R L Trans. no. 881.
Order from OTS $0.50 62-11177

Partial trans. (table of contents) of mono. Korroziya i Zashchita Konstruktsionnyh Metallicheskikh Materialov, Moscow, 1961, 260p.

DESCRIPTORS: *Corrosion, *Metallurgy.

Uchiyama, Iku.
IDENTIFICATION OF NONMETALLIC INCLUSIONS WITH THE X-RAY MICROANALYZER. Feb 62, 1100 words.
Order from HB $3.00 HB-5546

Trans. of Tetsu to Hagane (Japan) 1961, v. 47, no. 10, p. 1516-1518.

DESCRIPTORS: *Steel, Impurities, X-rays, Microanalysis.

Zotova, E. V.
THE SUSCEPTIBILITY OF CHROMIUM-NICKEL-MOLYBDENUM-COPPER STEELS TO INTERGRANULAR CORROSION (O Sklonnosti Khromonikel' Molibdeno-Medistykh Stalei k Mezhkristallitnoi Korrozii). Apr 61 [26]p. 2 refs. [DSIR NLL] M.3274.
Order from OTS or SLA $2.60 62-15367

Trans. of Tsentr[al'nyi] Nauch[no-]Issled[ovatel'skii] Inst[itut] Chernoi Met[allurgii. Institut Stali] Sbornik Trudov. (USSR) 1960, v. 17, p. 295-310.
Another trans. is available from BISI £4 5s as BISI-2124, July 61.

DESCRIPTORS: Chromium alloys, Nickel alloys, Molybdenum alloys, Copper alloys, *Steel, Grains (Metallurgy), *Corrosion.

Steels with an austenitic structure are susceptible to intergranular corrosion after heating in the range 600 to 800°C whereas steels with an austenitic-ferritic structure after similar tempering treatments do not

show this tendency, and steels with an austenitic-martensitic structure are subject to general corrosion. With increasing chromium content, the tendency of austenitic steels to intergranular corrosion decreases, and with increasing nickel content, it increases. Additions of up to 3% molybdenum and copper exert no marked influence on the susceptibility of steel to intergranular corrosion. Austenitic steels with very low carbon contents, melted from high-purity metallic materials, are practically immune to intergranular corrosion. Titanium or niobium, added to austenitic steel in a ratio to carbon (Ti:C or Nb:C) of not less than 12:1, prevent the susceptibility of steel to intergranular corrosion. Intergranular corrosion of austenitic steel may be due to two-stage decomposition of metastable austenite; during heating of steel at 600 to 800°C and subsequent cooling, an austenitic-martensitic mixture and carbides form along the grain boundaries of this metastable austenite. (Author)

Zotova, E. V.
SUSCEPTIBILITY OF HIGH Cr-Ni-Mo-Cu STEEL TO INTERGRANULAR CORROSION. Feb 62.
Order from HB $2.00 HB-5296

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab-[otka] Met[allov] (USSR) 1960, no. 1, p. 15-17.

DESCRIPTORS: *Steel, Chromium alloys, Nickel alloys, Molybdenum alloys, Copper alloys, Crystal structure, *Corrosion.

NUCLEAR PHYSICS AND NUCLEAR CHEMISTRY

IRAQI ATOMIC ENERGY COMMISSION: REPORT [SELECTED PART]. 24 Oct 60 [5]p. JPRS: 6155.
Order from OTS or SLA $1.10 60-31878

Trans. of mono. Maliyyah Lajnah at-Taqah Ath-Thariyyah al-'Iraqiyyah, Baghdad, 1960, p. 46-54.

DESCRIPTORS: *Atomic energy engineering, *Nuclear physics, Federal budgets, Money, Iraq.

The budget of the Iraqi Atomic Energy Commission for fiscal 1959 and 1960 is discussed and projects for fiscal 1959/60 through 1962/63 are tabulated. A water cooled atomic reactor of the A. R. T. type with a capacity of two million kw and a maximum neutron flow of 2 x 10^{13} is planned (evidently for completion during 1962/63). A total of one million Iraqi Dinars has been appropriated for the peaceful uses of atomic energy. Specialists are to be trained in Iraq, in Russia, and in West Germany.

Billig, Wilhelm.
NUCLEAR ENERGY IN POLAND. 29 Aug 61 [18]p. (10 figs. omitted). JPRS: 8800.
Order from OTS or SLA $1.60 62-19470

Trans. of Problemy (Poland) 1961, v. 17, no. 3, p. 180-191.

DESCRIPTORS: *Nuclear energy, Nucleonics, Poland.

Bozoky, Laszlo.
THE METHODS AND PROBLEMS OF MODERN DOSIMETRY. 16 Oct 61 [6]p. JPRS: 10581.
Order from OTS or SLA $1.10 62-19517

Partial trans. (some sections summarized) of Fizikai Szemle (Hungary) 1961, v. 11, no. 5, p. 135-141.

DESCRIPTORS: *Dosimeters, Operation, Dose rate, Determination.

Gamburg, D. Yu.
UTILISATION OF THE HEAT FROM NUCLEAR REACTORS FOR PRODUCING SYNTHESIS GAS AND HYDROGEN. [1961] [8]p. 16 refs. NCB Trans. A. 1868/SEH; [DSIR NLL] M3283.
Order from OTS or SLA $1.10 62-15267

Trans. of Gaz[ovaya] Prom[yshlennost'] (USSR) 1959, v. 4, no. 10, p. 17-20.

DESCRIPTORS: *Nuclear power plants, *Thermal utilization, Nuclear energy, Production, Heat, Gas, Hydrogen, Synthesis, Atomic energy engineering.

The discussion is based entirely on non-Soviet literature (1955-1958).

Groshev, L. V., Demidov, A. M., and Pelekhov, V. I.
THE DETERMINATION OF SMALL AMOUNTS OF GADOLINIUM AND SAMARIUM IMPURITIES BY THE METHOD OF GAMMA-RAY, SPECTRAL ANALYSIS AFTER AN (N, GAMMA) REACTION. [1961] [9]p. 3 refs.
Order from OTS or SLA $1.10 AEC-tr-4686

Trans. of mono. Opredelenie Malykh Primesei Gadoliniya i Samariya Metodom Analiza Spektrov Gamma-Luchei iz Reaktsii (n, gamma), Moscow, 1960, [10p.].

DESCRIPTORS: Rare earth elements, *Gadolinium, *Samarium, Impurities, Determination, *Gamma ray spectra, Thermal neutrons, Neutron capture, Neutron cross sections, Nuclear reactions, Gamma rays.
The possibility of using gamma-ray, spectral analysis after an (n, γ) reaction with thermal neutrons is considered here in order to determine small amounts of extraneous impurities in samples under investigation. The method is most sensitive when used to detect impurities with a large capture cross-section for thermal neutrons in materials with a low capture cross-section n. The sensitivity of the method also depends on the type of gamma spectrum of the principal constituent and of the impurity. Examples of the determination of gadolinium and samarium impurities in lanthanum, yttrium and ytterbium are presented. (Author)

Trifonov, As.
INFRARED SPECTROMETRY IN CHEMISTRY (Infrachervenata Spektrometriya v Khimiyata). 11 July 61 [23]p. 1 ref. JPRS: 9590.
Order from OTS or SLA $2.60 62-19307

Trans. of Priroda (Bulgaria) 1960 [v. 9] no. 6, p. 11-16.

DESCRIPTORS: *Infrared spectroscopy, *Chemistry.

Vavilov, Yu. N. and Fedorov, V. M.
RESEARCH ON THE PHYSICS OF COSMIC RAYS. 26 Jan 62 [6]p. JPRS: 12173.
Order from OTS or SLA $1.10 62-15476

Trans. of Akademiya Nauk SSSR. Vestnik, 1961 [v. 31] no. 10, p. 126-128.

DESCRIPTORS: *Cosmic rays, *Nuclear physics.

Topics are noted that were discussed at a conference held on 5 to 15 June in Borzhomi and afterwards in Yerevan. The conference was held jointly by the Science Academies of the USSR, the Georgian SSR, and the Armenian SSR.

Vlasov, V. A., Zysin, Yu. A. and others.
YIELD OF SOME FRAGMENTS DURING THE FISSION OF Th^{232} BY 14.3 MEV NEUTRONS. [1961] [12]p. 10 refs.
Order from OTS or SLA $1.60 AEC-tr-4665

Trans. of mono. Vykhody Nekotorykh Oskolkov pri Delenii Th^{232} Neitronami s Energiei 14.3 Mev, Moscow, 1960 [12p.].

DESCRIPTORS: *Thorium, Radioactivity, *Radioactive isotopes, Fission products, Nuclear reactions, Radiochemistry

The relative and absolute fragment yields of Ca^{73}, Br^{83}, Sr^{89}, Y^{91}, Zr^{95}, Mo^{99}, Ag^{111}, Cd^{115}, Te^{129m}, Te^{132}, Ce^{141} during the fission of Th^{232} by 14.3 mev neutrons were determined by a radiochemical method. A method based on the weighted sums of the observed relative yields of all the fission fragments obtained from the interpolated curve of their mass distribution was used for the determination of the absolute yields. The errors involved in this method are discussed. (Author)

Elementary Particles

Gatti, E.
DISCRIMINATION AMONG ELEMENTARY PARTICLES IN SCINTILLATION COUNTERS (Discriminazione tra Particelle Elementari nei Contatori a Scintillazione) tr. by D. A. Sinclair. 1961, 7p. NRCC Technical Trans. 984.
Order from NRCC $0.50 NRCC C-3817

Trans. of Seminario Matematico e Fisico di Milano. Rendiconti (Italy) 1960, no. 31, p. 3-8.

DESCRIPTORS: *Discriminators, *Scintillation counters, *Particles, Electrons, Photoelectrons, Photomultipliers, Mathematical analysis, Pulse discriminators, Distortion.

Levashev, A. E.
ELEMENTARY PARTICLES, PT. 1. 30 Oct 61 [178]p. 269 refs. JPRS: 10746.
Order from OTS or SLA $12.50 62-13232

Trans. of mono. [Elementarnye Chastitsy, Chast 1] Kiev, 1960, 135p.

DESCRIPTORS: *Particles, Theory, Scattering, Nuclear reactions, Nuclear structure, Nuclear spins, Beta decay, Quantum mechanics, Transformations, Perturbation theory, Photons, Electrons, Positrons, Protons, Antiprotons, Neutrons, Neutrinos, Antineutrons, Antineutrinos, Mesons, Pions, Hyperons, Algebra.

Contents:
Introduction
Mutual transformation of light elementary particles (leptons)
Mutual conversions of nucleons
Light mesons (L-mesons)
"Strange" particles (K mesons and hyperons)
Investigations of the structure of nucleons
Symmetry of the processes of interaction and decay of elementary particles
Anti-symmetry in elementary particles interaction processes and parity non-conservation
The "algebra" of elementary particles
Certain main premises of the theory of quantum fields
Certain problems in the theory of elementary particles.

Tolstikov, V. A. and Stavisskii, Yu. Ya.
FAST NEUTRON RADIATIVE CAPTURE CROSS-SECTION FOR THE ISOTOPE Mo^{100}. [1961] [5]p. 10 refs.
Order from OTS or SLA $1.10 AEC-tr-4680

Trans. of mono. Sechenie Radiatsionnogo Zakhvata Bystrykh Neitronov Izotopom Mo^{100}, Moscow, 1960 [5p].

DESCRIPTORS: *Molybdenum, *Radioactivity, *Radioactive isotopes, Fast neutrons, Neutron capture, Neutron cross sections.

The dependence of the fast neutron radiative capture cross-section for Mo^{100} on energy, in the energy interval 30 to 2100 Kev, was measured by the activation method. The radiative capture cross-section of Mo^{100} diminishes smoothly from 83 mbarn at 30 Kev to 34 mbarn at 170 Kev. It remains constant in the interval 170 to 400 Kev and later falls sharply to 11 mbarn at 1200 Kev. In the interval 1200 to 2100 Kev a very slow decrease is observed in cross-section, and it remains almost constant at 10 mbarn. In the interval 200 to 2100 Kev the results of our measurements agree well with the results of the unpublished work of Barschall.

Nuclear Engineering and Power

Ahmed, Makram Mohammed.
ATOMIC ENERGY DEVELOPMENT IN THE UNITED ARAB REPUBLIC. 16 Mar 61 [7]p. JPRS: 6930.
Order from OTS or SLA $1.10 62-19419

Trans. from Al-Ahram (Egypt) 1960, 6 Dec, p. 3.

DESCRIPTORS: *Atomic energy engineering, Power plants, Design, Electric power production, *Egypt.

Evdokimov, Yu. V., Kozlov, V. Ya. and others.
OPERATIONAL EXPERIENCE WITH THE FIRST ATOMIC ELECTRIC POWER STATION (Opyt Raboty Pervoi Atomnoi Elektrostantsii). 25 Oct 61 [16]p. FTD-TT-61-151. AD-266 759
Order from OTS or SLA $1.60 62-13584

Trans. of #Atomnaya Energiya (USSR) 1961, v. 11, no. 1, p. 12-18.

DESCRIPTORS: *Nuclear power plants, Power plants, *Electric power production, Operation, Safety.

The results are briefly described of six years uninterrupted operation of the first in the world atomic electric power station. Discussed are various operational conditions of the station and its parameters in these conditions. Described is the operation of heat generating elements and the method of partial overloads, realized for the first time at the station which allowed to attain such combustion of the fuel which is considerably higher than the planned value. Greater attention was devoted to experimental operations connected with the conversion of the station into boiling operation, operation in this condition and realization of nuclear overheating of steam in the reactor. A system of emergency localization is described. This system is intended for the prevention of ejection of vapor-gas mixture into the ventilation system and purification of gas ejected after trouble with a heat generating element. The system was created in connection with the presence of a greater number of experimental channels at the First Atomic Electric Power Station. (Author)

Yantovskii, E. I.
AN ELECTRIC GENERATOR. 21 Sep 61 [4]p. MCL-1109/1+2; AD-265 683.
Order from OTS or SLA $1.10 62-13078

Unedited rough draft trans. of #Byulleten' Izobretenii (USSR) 1960, no. 8, p. 16.

DESCRIPTORS: *Electrostatic generators, Design, Combustion chambers, Gas ionization.

This electric generator, similar to a synchronous machine with a combustion chamber in the air gap of the magnetic system containing the operating coil and with a magneto which is activated by the interaction of its magnetic field with the currents excited in the ionized stream of gas in the combustion chamber, has the distinguishing feature that, in order to simplify the construction of the combustion chamber, the machine is made in the form of a disc machine, with its active zone at the ends of the stator and magneto, while the combustion chamber is in the form of a hollow ring divided into curvilinear sections by spiral baffle plates. (Author)

Zvonov, N. V., Aleksenko, Yu. N. and others.
CRITICAL EXPERIMENTS WITH THE ORGANIC MODERATOR, MONOISOPROPYLDIPHENYL. [1961] [40]p. 3 refs.
Order from OTS or SLA $3.60 AEC-tr-4692

Trans. of mono. Kriticheskie Opyty s Organicheskim Zamedlitelem, Monoizopropildifenilom, Moscow, 1960 [40p.].

DESCRIPTORS: *Critical assemblies, *Fuel elements, *Reactor moderators, Organic compounds, Monocyclic compounds, *Diphenyl, *Propyl radicals, Tests, Thermal neutrons, Neutrons, Neutron flux density, Rods, Reflectors, Water, Beryllium, Reactor reflector materials.

The results of critical experiments on EK-10 fuel elements with the use of the organic compound, monoisopropyldiphenyl, as a moderator are presented here. The experiments were carried on a square array at spacings of 16, 19, 22 and 25 mm. The critical loadings at these spacings, and also the change in critical loading on heating the assembly to 50°C were obtained. Measurements of the distribution of the thermal neutron flux were also carried out along the radius and the height of the active zone. The experimental data were compared with calculated values. Moreover, for comparison, experimental determinations of the critical loadings for the EK-10 elements were carried out at lattice spacings of 16, 19 and 22 mm with ordinary water as the moderator. In the second part of the program, experimental determinations of the effectiveness of regulating rods of different configuration were carried out as well as determinations of the effect of replacing part of the reflector with a water-beryllium reflector on the magnitude of the critical loading and on the thermal neutron distribution. (Author)

Nuclear Reactions

NUCLEAR REACTIONS: BIBLIOGRAPHY. 15 Dec 61 [100]p. 682 refs. AID rept. 61-7; AD-271 523.
Order from OTS or SLA $8.60 62-19112

Based on Soviet monographs, articles, conference proceedings, newspapers, and other public sources available at the Aerospace Information Division and the Library of Congress prior to June 60.

DESCRIPTORS: *Bibliography, *Nuclear reactions, Thermonuclear reactions, Photonuclear reactions.

Contents:
Coulomb excitation
Deuteron-induced reactions
Neutron-induced reactions
Proton-induced reactions
Reactions induced by Alpha particles

Reactions induced by Gamma Quanta and electrons
Reactions induced by light nuclei
Reactions induced by heavy ions
Reactions induced by Pi Mesons
Nuclear fission
Thermonuclear reactions and plasma
Photonuclear reactions
General and miscellaneous.

Bonyushkin, E. K., Zamyatnin, Yu. S. and others.
FISSION PRODUCT YIELDS FROM THE FISSION OF U^{235} AND U^{238} WITH FAST NEUTRONS. [1961] [16]p. 20 refs.
Order from OTS or SLA $1.60 AEC-tr-4682

Trans. of mono. Vykhody Oskolkov Deleniya U^{235} i U^{238} Bystrymi Neitronami, Moscow, 1960, [19p.].

DESCRIPTORS: *Uranium, Radioactivity, Radioactive isotopes, Fission, *Fission products, *Fast neutrons, Radiochemistry.

The absolute yields of a number of fission products from the fission of U^{235} and U^{238} with 14.5 mev neutrons and with fission neutrons were determined radiochemically. Plots of the ratio of the yields of fission products at the maximum and minimum of the fission product distribution curve versus the excitation energy E* and the parameter Z^2/A of the fissioning nucleus are presented and discussed. The change in position of the maxima of the distribution curve is considered as a function of E* and of the mass of the fissioning nucleus A. (Author)

PHYSICS

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: PHYSICS, 1961, NOS. 1-2, 5-7, 9-11. 17 Apr 62 [61]p. JPRS: 13496.
Order from OTS or SLA $6.60 62-23989

Trans. of selected abstracts from Referativnyi Zhurnal. Fizika (USSR) 1961, nos. 1-2, 5-7, 9-11.

DESCRIPTORS: *Physics, Literature, Abstracting, Nuclear Physics, Nuclear reactions, Particles, Solid state physics, Electronics, Paramagnetic resonance, Resonance, Infrared spectroscopy, *China

Pyt'ev, Yu. P.
ENERGY CONSERVATION LAW FOR CHARGED PARTICLES IN AN ELECTROMAGNETIC FIELD. [1960] 6p. 5 refs; MDF P-152.
Order from OTS $0.50 62-11513

Trans. of N[auchnye] D[oklady] V[ysshey] Sh[koly]. Fiz[iko]-mate[maticheskie] Nauk[i] (USSR) 1958, no. 6, p. 219-224.

DESCRIPTORS: *Electromagnetic fields, Electromagnetic effects, *Particles, Energy, Mathematical analysis.

The proposed method of taking into account the influence of the emission of a particle moving with a variable velocity is based on the energy conservation law in electron theory. The energy balance for the field and the particle is successfully expressed in terms of parameters of the external field and the kinematic characteristics of the particle after shrinking the particle to a point outside the dependence of the initial charge distribution at the latter. An equation in the form of

$$\frac{d}{dt}\cdot\frac{mc^2}{(1-\beta^2)^{\frac{1}{2}}}+\frac{2}{3}\frac{q^2}{c^3}\frac{\vec{v}^2-(\vec{\beta}\times\vec{v})^2}{(1-\beta^2)^3}=q\,\vec{e}_o\,\vec{v}.$$

is hence obtained. (Author)

Shumskii, K. P.
THE THEORY OF PHASE CONVERSIONS IN A VACUUM. 8 Feb 62 [15]p. 4 refs. FTD-TT-62-67; SC-974; AD-271 834.
Order from OTS or SLA $1.60 62-19643

Unedited rough draft trans. of paper for presentation at the Conference [on] Heat [and Mass] Transfer [held in] Minsk, 5-10 June 61.

DESCRIPTORS: *Molecules, *Molecular association, Phase studies, Phase transitions, Vacuum systems, Vapors, Condensation.

Subbotin, V. I., Ibragimov, M. Kh. and others.
HEAT TRANSFER AND TURBULENT HEAT TRANSPORT IN A FLOW OF LIQUID METALS. 24 Jan 62 [17]p. FTD-TT-62-57; SC-963; AD-270 755.
Order from OTS or SLA $1.60 62-19648

Unedited rough draft trans. of paper for presentation at the Conference [on] HEAT [and Mass] Transfer [held in] Minsk, 5-10 June 61.

DESCRIPTORS: *Liquid metals, *Alkali metals, *Heat transfer, Turbulent flow, Fluid flow, Thermodynamics, Measurement.

The results are described of experiments on determining the heat-transfer coefficient and measuring the temperature field in a stream of various alkali and heavy liquid metals (sodium, mercury, etc.). The investigated metals are distinguished by their broad range of change of the criterion Pr = 0.005 to 0.05. A number of experiments were made for the measurement of the temperature fields for water (Pr ~ 10). (Author)

Yutkin, L. A.
ELECTROHYDRAULIC EFFECT. 13 Oct 61 [90]p. MCL-1207. AD-267 722.
Order from OTS or SLA $8.10 62-15184

Unedited rough draft trans. of mono. Elektrogidravlicheskii Effekt, Moscow/Leningrad, 1955, 51p.

DESCRIPTORS: *Magnetohydrodynamics, *Plasma physics, *Electric discharges, Liquids, Dielectrics, Ionization, Shock waves, Pressure.

When a specially shaped high-voltage electric pulse discharge is produced inside a liquid, extremely high pressures are formed in the area of the discharge. These high pressures manifest themselves in extremely different ways, as in mechanical destruction of objects in the neighborhood of the discharge, ejection of liquid, etc. It has been possible to establish experimentally the existence of certain laws regarding the nature and results of this phenomenon, which we have called the "electrohydraulic effect". The possibilities of using this phenomenom for practical purposes have been determined in a general form. This brochure contains a short description of the electrohydraulic effect, the method of study, and the results of the experiments conducted, as well as discussions on its prospective use. (Author)

Zubov, V. G. and Shal'nov, V. P.
WORKED EXAMPLES IN PHYSICS, tr. by Erwin Marquit. Mar 62, 353p.
Order from PP $7.50/ college ed. $6.50

Trans. of unidentified Russian mono., n.p., n.d.

DESCRIPTORS: *Physics, Electricity, Optics, Mechanics, Molecules, Heat.

Acoustics

Alfimov, V.
THE ROLE NOISE PLAYS ON WORKERS' PRODUCTIVITY. 20 Dec 61 [5]p. JPRS: 11754.
Order from OTS or SLA $1.10 62-15208

Trans. from Trud, Moscow (USSR) 1961, 16 Sep.

DESCRIPTORS: *Noise, Countermeasures, Personnel, Production, Vibration, Industrial plants, Acoustics.

A request is made for an anti-noise program in Soviet factories and industrial areas. No scientific or research work is reported.

Golyamina, I. P.
MAGNETOSTRICTIONAL FERRITES AS MATERIAL FOR ELECTRO-ACOUSTIC CONVERTERS. [1961] [11]p. 26 refs. [DSIR LLU] M. 3254.
Order from OTS or SLA $1.60 61-27616

Trans. of #Akusticheskii Zhurnal (USSR) 1960, v. 6, no. 3, p. 311-320.

DESCRIPTORS: *Electroacoustic transducers, Transducers, Materials *Ferrites, Magnetostriction, Mechanical properties, Magnetic properties.

A description is given of mechanical, magnetic and magnetostrictional properties of four types of ferrites intended for use for electro-acoustical conversion purposes. It is shown that the magnetostrictional parameters of these materials which are essential for conversion are comparable in magnitude with the corresponding parameters of the magnetostrictive metals usually used. A relationship is given between the properties of the ferrites and the magnitude of the steady magnetic field and temperature. (Author)

Sapozhkov, M. A.
SOMMERING VAN NIET-LINEAIRE VERVORMINGEN (Summoning the Non-linear Deformations) tr. by J. H. van Santen. 13p. 20 refs. MTWL: 190. (text in Dutch).
Order from OTS or ETC $1.85 61-17836

Trans. of Zhurnal Tekhnicheskoi Fiziki, 1947, v. 17, p. 1187-1194.

DESCRIPTORS: *Deformation, *Acoustics, Theory.

Electricity and Magnetism

Barta, Cyorgy.
HUNGARIAN SUMMARIZES IGY FINDINGS ON TERRESTRIAL MAGNETISM. 19 Jan 61 [18]p. 17 refs. JPRS: 6604.
Order from OTS or SLA $1.60 62-19422

Trans. of Fizikai Szemle (Hungary) 1960, v. 10, p. 291-298.

DESCRIPTORS: Geophysics, *Terrestrial magnetism, Hungary, Magnetism, Van allen radiation belt.

Fajt, V.
A NEW MODIFICATION OF A COMPENSATING PERMEAMETER. [1962] 7p.
Order from ATS $11.95 ATS-34P59C

Trans. of Elektrotech[nicky] Obzor (Czechoslovakia) 1961, v. 50, no. 6, p. 332-335.

DESCRIPTORS: *Permeameters, Design, Magnetism.

Kalinin, Yu. D., ed.
MAGNETIC AND IONOSPHERIC DISTURBANCES (Magnitno-Ionosfernye Vozmushcheniya). Jan 61, 96p. 68 refs. NASA Technical trans. F-49.
Order from OTS $2.25 61-11158

Trans. of Zemnoi Magnetizm i Zemnye Toki: Sbornik Statei (USSR) 1959, no. 1; and Issledovaniya Ionosfery i Meteorov: Sbornik Statei (USSR) 1959, no. 1, 73p.

DESCRIPTORS: Symposia, Ionosphere, *Ionospheric disturbances, Magnetism, *Terrestrial magnetism, Magnetic fields, *Magnetic storms, Microstructure, Diurnal variations, Excitation, Oscillation, Arctic regions, Antarctic regions, Geophysics.

Contents:
Diurnal distribution of active periods of magnetic disturbances at high latitudes, by A. P. Nikol'skii
Preliminary results of the study of magnetic storms during the first months of the IGY Program, by V. I. Afanas'eva
Magnetic field of magnetic disturbances in the Arctic and Antarctic regions, by B. A. Aleksandrov and others
Preliminary results obtained during a study of the microstructure of the most violent magnetic storms, based on short-period oscillations, by V. A. Troitskaya

Concerning methods used in effecting a comparison of magnetic disturbances in the Arctic and Antarctic regions, by A. P. Nikol'skii
Ionospheric disturbances at medium latitudes, by N. V. Mednikova
Connection between ionospheric and magnetic disturbances at high latitudes, by R. A. Zevakina
Certain types of pulsations of the geomagnetic field and earth currents occurring simultaneously on the territory of the USSR, by A. G. Kalashnikov
Excitation of short-period oscillations of the geomagnetic field during the sudden onset of magnetic storms, by A. S. Dvoryashin
Certain peculiarities of a variable geomagnetic field in the region of the Mirnyi South Pole Observatory, by S. M. Mansurov
Behavior of the ionosphere during sudden ionospheric disturbances, by N. A. Savich
Calendar of geomagnetic activity in the USSR, by A. D. Shevnin.

Kobelev, V. V. and Korsunskii, A. A.
DOMAIN STRUCTURE OF UNIAXIAL FERROMAGNETIC FILMS. 17 Jan 62 [30]p. 8 refs. JPRS: 11981.
Order from OTS or SLA $2.60 62-15437

Trans. of mono Domennaya Struktura Odnoosnykh Ferromagnitnykh Plenok, Moscow, 1961, 29p.

DESCRIPTORS: *Ferromagnetic materials, *Films, Preparation, Surface properties, Magnetic properties, Magnetic moments, Hysteresis, Photographic analysis, Optics, Magnetic effects.

The Kerr magneto-optic effect was used to observe the domain structures. Observations were made when (1) remagnetization was along the easy axis, (2) remagnetization was along the easy axis with a field simultaneous applied along the difficult axis, (3) remagnetization was by a field directed at an angle to the easy axis, and (4) remagnetization was almost along the difficult axis.

Kuzovanikov, A. A. and Kaptsov, N. A.
AN INVESTIGATION OF HIGH-FREQUENCY DISCHARGE IN THE BAND FROM 1.5 TO 15 MC III. 13 Nov 61 [15]p. 16 refs. FTD-TT-61-94; AD-267 738
Order from OTS or SLA $1.60 62-13577

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Fizika (USSR) 1960, no. 6, p. 64-70.

DESCRIPTORS: High frequency, *Electrical corona, *Electric discharges, Plasma physics, Electrons, Motion, Frequency.

The mechanism of the development of steady high-frequency corona discharge and an explanation of its change into torch discharge are presented. The mechanism of the development of high-frequency corona discharge can be explained on the basis of avalanch-streamer theory when the development of torch discharge occurs as a result of the gradual formation of high-frequency plasma, in the space occupied by the torch, during many field cycles. High-frequency corona discharge changes to torch discharge at frequencies where the active duration of the voltage half-cycle is less than 0.03 μsec, the time necessary for streamer formation. (Author)

Pu, Fu-chouh, Tyablikov, S. V., and Shiklosh, T.
RETARDING AND ADVANCING GREEN'S FUNCTIONS IN THE QUANTUM THEORY OF AN ISOTROPIC FERROMAGNET. [1960] 9p. 2 refs. MDF P-153.
Order from OTS $0.50 62-11512

Trans. of Acta Physica (Hungary) 1960, v. 11, no. 4, p. 323-331.

DESCRIPTORS: *Ferromagnetic materials, Thermodynamics, *Quantum mechanics, Greens function.

Retarding and advancing Green's functions for the computation of the fundamental thermodynamic characteristics of an isotropic ferromagnet have been obtained by Bogoliubov and Tiablikov (Doklady Akad. Nauk SSSR 126: 53, 1959) and by Tiablikov (Ukrainskiy Matematicheskiy Zhurnal 11: 287-294, 1959: available in translation from OTS $1.10 as 62-15885). Results have been obtained for the magnetization by this method which are suitable for the whole temperature range. Here, in contrast to these other works, we do not assume in advance a known orientation of the resultant magnetization relative to the direction of the external magnetic field, which affords the possibility of investigating more complex problems in the theory of magnetism. (Author)

Molecular Physics and Spectroscopy

L., L.
REPORT OF THE SPECTROSCOPIC SECTION OF THE CHEMICAL CONFERENCE OF THE HUNGARIAN CHEMICAL SOCIETY. 30 Nov 60 [8]p. JPRS: 6316.
Order from OTS or SLA $1.10 62-19423

Trans. of Fizikai Szemle (Hungary) 1960, v. 10, no. 6, p. 190-191.

DESCRIPTORS: *Conferences, *Chemistry, *Spectrographic data

Shmandel', A. E.
THEORIE VAN DE METING VAN HOGE TEMPERATUREN VOLGENS DE METHODE VAN DE OMKEERBAARHEID DER SPECTRAALLIJNEN (Theory of Measuring the Higher Temperatures According to the Method of the Reversibility of the Spectral Lines). tr. by J. H. van Santen, 7p. 5 refs. MTWL: 189. (text in Dutch).
Order from OTS or ETC $1.55 61-17835

Trans. of Zhurnal Tekhnicheskoi Fiziki (USSR) 1947, v. 17, p. 1297-1300.

DESCRIPTORS: Temperature, Measurement, *Spectrophotometers, *Flames, Theory.

Shugar, A. S.
BIPRISMA VOOR VISUEEL FOTOMETREREN VAN SPECTRAAL LIJNEN (A Biprism for Visual Photometring of Spectral Lines) 6p. 5 refs. MTWL: 65. (text in Dutch).
Order from OTS or ETC $1.55 61-17788

Trans. of Zhurnal Tekhnicheskoi Fiziki (USSR) 1947, v. 17, no. 5, p. 575-578.

DESCRIPTORS: *Spectro photometers, Spectrographic analysis, *Prisms, Fluor spar.

Sirota, N. N.
DE MOLECULAIRE BOUW VAN VASTE OPLOSSINGEN EN LEGERINGEN (The Question of the Molecular Structure of Solid Solutions and Melts) tr. by J. H. van Santen. 7p. 16 refs. MTWL: 186. (text in Dutch).
Order from OTS or ETC $1.55 . 61-17832

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 59, p. 933-936.

DESCRIPTORS: *Solids, Solutions, *Molecular structure, Melting.

Optics

FRAME FOR EYEGLASSES, IN WHICH AT LEAST A PART OF EACH SIDEPIECE CAN BE ELASTICALLY OPENED OUTWARD WITH RESPECT TO THE FRONT PIECE. [1962] 4p.
Order from ATS $5.00 ATS-63P59I

Trans of Italian patent 560, 271, filed 8 Oct 56, granted 2 Apr 57.

DESCRIPTORS: *Spectacle frames, *Eyeglasses.

Arboozov, G. A. and others.
A DEVICE FOR THE TITRATION OF DARK SOLUTIONS. [1961] 2p. (1 illus. omitted) 1 ref.
Order from OTS or SLA $1.10 62-10601

Trans. of #Zavodoskaya Laboratoriya (USSR) 1961, v. 27, no. 2, p. 225-226.

DESCRIPTORS: *Solutions, *Titration, Colors, Chromium, Phase transitions, Light, Optical filters.

Ioffe, B. V.
NAUWKEURIGE METINGEN VAN DE DISPERSIE VAN DE BREKINGSINDEX (Exact Measurement of the Refractive Dispersion) 5p. 1 ref. MTWL: 195. (text in Dutch).
Order from OTS or ETC $1.40 61-17819

Trans. of Zavodskaya Laboratoriya (USSR) 1949, v. 14, p. 1003-1004.

DESCRIPTORS: Refraction, *Refractometer, *Measurement.

Prishivalko, A. P.
NOMOGRAMS FOR THE DETERMINATION OF THE OPTICAL CONSTANTS OF ABSORBING SUBSTANCES BY AVERY'S METHOD (Nomogrammy dlya Opredeleniya Opticheskikh Postoyannykh Pogloshchayushchikh Veshchestv po Metody Everi) tr. by Ivan Mittin. 1961 [5]p. 7 refs.
Order from OTS or SLA $1.10 62-13104

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1960, v. 3, no. 2, p. 83-85.

DESCRIPTORS: *Nomographs, Absorption, Substances, *Optics, Light, Polarization, Reflection, Measurement.

A new type of nomogram is proposed permitting simultaneous and rapid determination of optical constants of absorbing substances from measurements of reflectivity ratios of light polarized in the plane of incidence and perpendicular to it, at two different angles of incidence. (Author)

Solid State Physics

Bodyako, M. N. and others.
RECRYSTALLIZATION DIAGRAMS FOR INDUCTION HEATING. Feb 62.
Order from HB $3.00 HB-5307

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 1, p. 49-53.

DESCRIPTORS: *Induction heating, Crystallization, Grains (Metallurgy), Deformation.

Ginzburg, V. L. and Shabanskii, V. P.
THE KINETIC TEMPERATURE OF ELECTRONS IN METALS AND ANOMOLOUS ELECTRONIC EMISSION (Kineticheskaya Temperatura Elektronov v Metallakh i Anomal'naya Elektronnaya Emissiya) tr. by V. Burdon. 2 Mar 61 [11]p. (foreign text included) 9 refs. Trafford Park trans. no. 2733; [DSIR NLL] M. 3234.
Order from OTS or SLA $1.60 62-15244

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1955, v. 100, no. 3, p. 445-448.

DESCRIPTORS: *Semiconductors, Electric fields, Intensity, Metals, Secondary emission, Gases, Direct current, Voltage dividers, Temperature, *Electrons.

See also 59-18683

Haken, H.
THEORY OF THE EXCITON IN SOLIDS. [1961] [81]p. (93 refs. omitted) 7 refs.
Order from SLA $8.60 62-10632

Trans. of Fortschritte der Physik (Germany) 1958, v. 6, no. 6, p. 271-334.

DESCRIPTORS: *Electrons, *Electron transitions, *Excitation, Solids, Crystal structure, Lattices, Wave analysis, Magnetic properties, Diffusion, Particles, Motion, Molecules, Theory, Crystals, Quantum mechanics.

Kallistov, O. V. and Korneeva, E. V.
A STUDY OF THE FLOW BIREFRINGENCE OF ISOTACTIC POLYSTYRENE FILMS. [1961] [9]p. 7 refs.
Order from OTS or SLA $1.10 62-13835

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2 [no. 7] p. 1056-1062.

DESCRIPTORS: *Films, *Styrenes, *Polymers, Elasticity, Crystallization, Temperature, Photoelasticity, *Refractive index, Optics.

Flow birefringence and the photoelastic effect have been found to vary with temperature in films of stereoregular (isotactic) polystyrene in the highly elastic state, due to the appearance of the initial phase of crystallization. The photoelastic constant has been found to vary with temperature in amorphous isotactic polystyrene. A method is described for making a study of flow birefringence and photoelastic effect in films of isotactic polystyrene. (Author)

Leonov, A. I.
INFLUENCE OF THE GASEOUS MEDIUM ON THE PHYSICOCHEMICAL PROCESSES IN SEMICONDUCTOR OXIDES AT HIGH TEMPERATURES.]1962] 7p.
Order from ATS $9.45 ATS-39N50R

Trans. of #Akad[emiya] Nauk SSSR. Otdel[enie] Khim[icheskikh] Nauk. Izvest[iya] 1960, no. 9, p. 1529-1534.

DESCRIPTORS: *Semiconductors, Oxides, Gases, Physical properties, Chemical properties, Temperature

Maeda, Masao.
SEMICONDUCTOR ELECTRODE. [1961] [20]p. 18 refs.
Order from SLA $1.60 62-10621

Trans. of Denki Kagaku (Japan) 1961, v. 29, p. 8-14.

DESCRIPTORS: *Semiconductors, *Electrodes, Electrochemistry, Space charges, Reduction, Germanium, Solid state physics.

This short paper explains the difference when semiconductor instead of metals are used for electrode.

Mirgalovskaya, M. S. and Strel'nikova, I. A.
THE PRODUCTION OF ALLOYED SINGLE CRYSTALS AND p--n-JUNCTIONS IN ALUMINUM ANTIMONIDE. [1961] [4]p. 10 refs. [DSIR NLL] M. 4617.
Order from OTS or SLA $1.10 62-15691

Trans. of #Fizika Tverdogo Tela (USSR) 1961, v. 3, no. 2, p. 456-458.

DESCRIPTORS: *Aluminum compounds, *Antimonides, Electrical properties, Alloys, Single crystals, Production, *Semiconductors, Materials.

A study was made of the effect of certain concentrations of Te, Se and S, used as alloying additives, on the properties of AlSb. High-resistance p-type AlSb single crystals were obtained from a melt with the addition of 0.03%. S (ρ = 300 ohm. cm., μ = 900 cm.^{2}/V. sec., n = 10^{12} cm.$^{-3}$), and 0.07%. S (ρ = 2,000 ohm. cm.). High-resistance n-type AlSb single crystals were obtained from a melt containing 0.07% Se (ρ = 6 ohm. cm., μ = 906 cm.^{2}/V. sec., n = 2.2 x 10^{14} cm.$^{-3}$, r = 40 m. sec., V_{mv} = 7 V.) and 0.09% S (ρ = 600 ohm. cm.). Conditions were selected at which pulled p - n junctions of AlSb with a flat shape were obtained. (Author)

Nagaev, E. L.
CONDUCTION MECHANISM IN SEMICONDUCTORS WITH LOW MOBILITY. [1962] 6p.
Order from ATS $10.50 ATS-64P58R

Trans. of #Fiz[ika] Tverdogo Tela (USSR) 1961, v. 3, no. 9, p. 2567-2572.

DESCRIPTORS: *Semiconductors, Electricity, Conductivity.

Nadgorny, E. M. and Smirnov, B. I.
THE STRUCTURE OF COPPER MICROWIRE. [1961] [3]p. 4 refs. [DSIR NLL] M. 4618.
Order from OTS or SLA $1.10 62-15692

Trans. of #Fizika Tverdogo Tela (USSR) 1960, v. 2, no. 12, p. 3048-3049.

DESCRIPTORS: *Copper wire, Single crystals, Grains (Metallurgy), Mechanical properties, Wire.

X-rays indicated that copper microwire of diameter less than 14 μ is a single crystal in cross-section with the [001] direction lying along the axis of the wire. With microwire of larger diameter a series of peaks of reflection from the planes (200) appeared on varying the angle of rotation of the sample, and their intensity was less by one to two orders of magnitude than the intensity of the reflection in the case of a single crystal. A similar picture is also observed for (111) reflection, which is absent in the case of wires of small diameter. This suggests that the sample is a polycrystal with large grains differently orientated. The conclusion is drawn that the structure of microwire depends on the diameter.

Pines, B. Ya.
ON THE GROWTH OF "NUCLEAR" CRACKS PROMOTING BRITTLE STRENGTH OF BODIES (O Roste "Zarodyshevykh" Treshchin, Obuslovlivayushchikh Khrupkuyu Prochnost' Tel). 12 Apr 61 [11]p. 7 refs. MCL-530/1 + 2.
Order from OTS or SLA $1.60 61-23862

Unedited rough draft trans. of Zhurnal Tekhnicheskoi Fiziki (USSR) 1955, v. 25, no. 8, p. 1399-1404.

DESCRIPTORS: Nuclei, Phase transitions, Lattices, Grains (Metallurgy), Crystal structure, Diffusion, *Fracture (Mechanics) *Brittle materials, Thermodynamics, *Solid state physics.

A mechanism is proposed for the origin of the growth of nuclear cracks in a stressed body. Consideration is given to the effect of vacancies in the crystal lattice, which form as a result of separation of certain atoms from their places in the lattice nodes because of thermal movement.

Ushakov, G. P., Gushcho, Yu. A. and others.
EFFECT OF THE PHASE STATE OF POLYETHYLENE DURING IRRADIATION ON THE NATURE OF THE NEWLY-FORMED LATTICE. [1961] [21]p. 17 refs.
Order from OTS or SLA $2.60 AEC-tr-4672

Trans. of mono. Vliyanie Fazovogo Sostoyania Polietilena pri Obluchenii na Kharakter Obrazuyushcheisya Setki, Moscow, 1960 [20p.].

DESCRIPTORS: *Ethylenes, Polymers, Radiation effects, Lattices, Density, Melting, Temperature, Crystals, Crystallization, Phase studies.

The effect of the phase state of polyethylene irradiated in a reactor on the nature of the newly formed lattice was investigated. By keeping the average lattice density the same, its effect on the melting temperature T_m and on the degree of crystallinity of the irradiated polymer yields quite different results, depending whether the lattice was formed by irradiating the polyethylene in crystalline or in amorphous state. If the polyethylene is irradiated in the crystalline state (at 45-50° C) the resulting lattice forms a highly organized chain arrangement in the crystalline unit (spherolites). In addition to degrading the crystals and decreasing the degree of crystallinity, such a lattice increases the strength of the remaining smaller crystals. Therefore the T_m of the polyethylene with such a lattice decreases only slightly and non-uniformly with the dose (with lattice density). The lattice formed by irradiating molten polyethylene (at 130 to 160° C) lowers the T_m at a much faster rate as a function of the dose and suppresses crystallization completely at significantly lower dose levels than if the irradiation is performed in the crystalline state, resulting in the formation of a rigid, resin-like material. (Author)

Thermodynamics

Bakhurov, V. G. and Boreskov, G. K.
THE EFFECTIVE COEFFICIENT OF THERMAL CONDUCTIVITY OF CONTACT MASSES tr. by J. T. Warner. 31p. 10 refs. MTWL: 207.
Order from OTS or ETC $2.45 61-17806

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1947, v. 20, no. 8, p. 721-738.

DESCRIPTORS: Catalysts, *Heat transfer, Thermal diffusion, *Gas flow.

Ermolenko, V. D.
APPLICATION OF METHODS INVOLVING THE THERMODYNAMICS OF IRREVERSIBLE PROCESSES TO MASS TRANSFER PHENOMENA IN COLLOIDS, tr. by Lydia Venters. Dec 61 [4]p. 6 refs.
Order from OTS or SLA $1.10 AEC-tr-4902

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1960, v. 3, no. 5, p. 124ff.

DESCRIPTORS: *Colloids, Substances, Vapors, Liquids, Heat transfer, *Mass transfer, *Thermodynamics.

Basic relationships of the Onzager theory are used to obtain certain regularities in the transfer of heat and mass of substance. A relationship is established between the thermogradient coefficient and thermodynamic characteristics of the transferred substances.

Gel'fman, M. Sh.
VORMINGSWARMTE EN SOORTELIJKE WARMTE VAN NITROÖLEUMS (Heats of Formation and Heat Capacities of Nitroöleums) tr. by G.J.M. Fritschy. 11p. 8 refs. MTWL: 210 (text in Dutch).
Order from OTS or ETC $1.55 61-17809

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1947, v. 20, p. 762-768.

DESCRIPTORS: *Sulfuric acid, *Nitric acid, Sulfur compounds, Oxides, *Heat of formation.

Golutvin, Yu. M.
THE HEATS OF FORMATION OF TITANIUM SILICIDES, tr. by Lydia Venters. Nov 61, 13p. 17 refs.
Order from OTS or SLA $1.60 AEC-tr-4862

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1956, v. 30, no. 10, p. 2251ff.

DESCRIPTORS: *Titanium compounds, *Silicides, *Heat of formation, Combustion, Thermodynamics, Thermochemistry.

The heats of combustion of Ti, Si, and the titanium silicides $TiSi_2$, TiSi, and Ti_5Si_3 were determined by using the combustion in a bomb. On the basis of the data obtained, the heats of formation, in kcal/mole, of silicides from elements were calculated: H^o_{298} $TiSi_2$ = -42.9±4.5; H^o_{298} TiSi = -39.2±3.0; and H^o_{298} Ti_5Si_3 = -147±12.

Kadirov, N. B.
AN APPROACH TO DERIVING A FORMULA FOR DETERMINING THE COEFFICIENT OF HEAT TRANSFER FROM A GAS TO A WALL BASED ON THE KINETIC THEORY OF MATTER. 16 Jan 62 [13]p. 3 refs. FTD-TT-61-194; AD-270 790.
Order from OTS or SLA $1.60 62-19265

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Neft' i Gaz (USSR) 1960 [v. 3] no. 11, p. 95-100.

DESCRIPTORS: *Heat transfer, Gases, Walls, Kinetic theory, Gas flow, Mathematical analysis.

The equation

$$\alpha = 0.0394 \frac{np}{\mu_1 + \mu_2} \sqrt{\frac{\mu_1 g}{T_p}} \cdot \frac{T_p - T_c}{T - T_c}$$

is derived for determining the heat-transfer coefficient in the case of the nonequilibrium (thermal) state of a gas flow. Here μ_1 and μ_2 are the molar weights of the gas and material of the wall; n is the number of degrees of freedom of the polyatomic gas; p is gas pressure; T, T_p and T_c are the average temperatures of the gas, the boundary layer, and the wall, respectively; and $g = \mu_i / Nm$ with μ_i the weight in kilograms of a single mole of gas and N the number of molecules in one kilogram-mole. An examination of the heat-transfer process indicates that the coefficient is directly proportional to the absolute pressure of the gas. With a strongly turbulent gas flow having an identical temperature throughout, the heat-transfer coefficient is indirectly proportional to the square root of the average gas temperature. In cases of a nonuniform distribution of temperatures in the gas flow, the coefficient depends both on the gas temperature and on the wall temperature. To intensify the heat-transfer process it is necessary to increase T_p, which can be done by mixing the gas flow. The molecular weight of the wall material adjacent to the gas also influences the heat transfer.

Konakov, P. K.
MASS AND ENERGY TRANSFER. 6 Feb 62 [12]p.
FTD-TT-62-65; SC-972, AD-271 836.
Order from OTS or SLA $1.60 62-19641

Unedited rough draft trans. of paper for presentation Conference [on] Heat [and Mass] Transfer [held in] Minsk, 5-10 June 61.

DESCRIPTORS: *Energy, *Mass energy relation, Thermal conductivity, Heat transfer.

An analysis shows that mass transfer consists of diffusion and thermal-diffusion mass transfer, while heat transfer consists of diffusion and thermal heat transfer. General equations are derived that take into account diffusion thermal conductivity and heat transfer, and also heat transfer due to the variability of the specific heat of the body.

Kosov, N. D. and Rivin, O. V.
A NEW TYPE OF CALORIMETER FOR DETERMINING THERMAL CONSTANTS. 26 Jan 62 [18]p.
13 refs. FTD-TT-62-59; AD-270 789.
Order from OTS or SLA $1.60 62-15818

Unedited rough draft trans. of mono. (paper) from Conference [on] Heat [and Mass] Transfer, held in Minsk, 5-10 June 61. [Proceedings].

DESCRIPTORS: *Calorimeters, *Heat transfer, Thermal conductivity, Mathematical analysis, Heat, Absorption, Instrumentation, Temperature, Measurement.

A method of calorimetric determinations is examined that is based on the measurement of a nonsteady-state heat flow. The proposed calorimetric method is suitable for determining released heats and for determining heat contents and heat of phase changes for a broad range of temperatures. The optimum parameters were worked out by the design of calorimeters to determine heat release to an accuracy of 1 to 3% with speed and ease using a simple apparatus. The instruments and methods make it possible to determine the heat contents of solid and liquid substances, and the heats of phase change with an accuracy of about 6%; this has a number of advantages compared with present heat-flow methods: the device and the experiment method are simplified and when the experiments are conducted there is no need to maintain a constant heat flow nor to carry out the heating according to a specified program.

Kozlov, N. S.
HET KOOKPUNT VAN VERBINDINGEN UIT DE REEKS DER PARAFFINEN (ALKANEN) (Boiling Points of Compounds of the Paraffin Series (Alkanes)). 13p.
8 refs. MTWL: 202. (text in Dutch).
Order from OTS or ETC $1.85 61-17811

Trans. of Neftyanoe Khozyaistvo (USSR) 1948, v. 26, no. 1, p. 47-51.

DESCRIPTORS: *Methanes, *Boiling, Temperature, Structure.

Lykov, A. V.
APPLICATION OF THERMODYNAMIC METHODS OF IRREVERSIBLE PROCESSES TO THE STUDY OF BOUNDARY-LAYER HEAT AND MASS TRANSFER.
30 Jan 62 [17]p. 17 refs. FTD-TT-62-53.
Order from OTS or SLA $1.60 62-15827

Unedited rough draft trans. of mono. (paper) from Conference [on] Heat [and Mass] Transfer, held in Minsk, 5-10 June 61. [Proceedings].

DESCRIPTORS: *Heat transfer, *Boundary layer, Thermodynamics, Liquids, Evaporation, Vapor pressure, Mathematical analysis.

When a liquid evaporates from a capillary-porous body, the boundary layer contains submicroscopic liquid particles which evaporate in this boundary layer. For Re variations from 8000 to 100,000 in fine-pore bodies, the mass transfer associated with evaporation of the liquid does not influence the curves of air velocity distribution in the boundary layer. Partial vapor pressure is not a potential source of mass transfer in the boundary layer. Under certain conditions molecular vapor transport is determined not by the drop in partial vapor pressure, but by the drop in temperature, i.e., by the potential component μ_1/T, the value of which depends on the change in temperature. This type of transfer is not thermal vapor diffusion. The molecular energy flow of well-regulated motion is directly proportional to the gradient of the kinetic energy of transitional motion of the liquid, i.e., the driving force of such transfer is a vector (a gradient of the scalar). During the processes of the molecular transfer of kinetic energy of motion under isothermal conditions, there occurs the effect of separation of the mixture, analogous to the Soret effect. Mass transfer due to thermodynamic force is directly proportional to the gradient of the square of the flow rate.

Magidson, O. Yu. and Shevelev, V. A.
DE THERMISCHE EIGENSCHAPPEN VAN HET SYSTEEM: 4-NITROTOLUOL-2-CHLOOR-4-NITROTOLUOL-2,6-DICHLOOR-4-NITROTOLUOL (Thermal Properties of the Systeem: 4-Nitrotoluene-2-Chloro-4-Nitrotoluene-2,6-Dichloro-4-Nitrotoluene) tr. by A. Bosch-Sukacz and G. J. M. Fritschy. 7p. 2 refs. MTWL: 101. (text in Dutch).
Order from OTS or ETC $1.55 61-17746

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1935, v. 8, p. 1431-1434.

DESCRIPTORS: Nitroradicals, *Toluenes, Chlorine compounds, *Chlorination, Phase studies.

Mikheev, M. A., ed.
PROBLEMS OF HEAT TRANSFER. Jan 62, 237p.
Order from OTS $3.00 AEC-tr-4511

Trans. of mono. Voprosy Teploobmena, Moscow, 1959.

DESCRIPTORS: *Heat transfer, Fused materials, Metals, Alloys, Physical properties, *Thermodynamics, Fluid flow, Water, Liquids, Convection, Sodium alloys, Potassium alloys, Turbulent flow, Bismuth alloys, Lead alloys, Numerical methods and procedures, Thermocouples, Evaporation, Vacuum apparatus, Velocity, Temperature, Distribution, Surfaces, Absorption.

Contents:
Development of the study of heat exchange over the last 40 years, by M. A. Mikheev.
The thermal and physical properties of a number of fused metals and alloys, by N. A. Nikol'skii and others.
The thermal heat capacity of fused metals, by I. M. Pchelkin.
Radiant-convective heat exchange in an absorbing medium, by E. A. Sidorov.
The increase in heat exchange for the flow of water in an annular space, by O. S. Fedynskii
Convective heat exchange with direct contact of immiscible liquids, by V. M. Deryukin and O. S. Fedynskii.
An investigation of heat transfer in a tube to a sodium-potassium alloy, by P. L. Kirillov and others
The average heat transfer with turbulent flow of a eutectic bismuth-lead alloy in short tubes, by N. S. Kondrat'ev.
Rapid method of measuring the average heat transfer coefficient in a tube, by M. N. Ivanovskii

Syromyatnikov, N. I., Vasanova, L. K., and Shimanskii, Yu. N.
A STUDY OF HEAT TRANSFER IN A FLUIDIZED BED WITH INTERNAL HEAT SOURCES. 16 Jan 62 [8]p. 3 refs. FTD-TT-62-61; FTD-SC-958.
Order from OTS or SLA $1.10 62-15719

Unedited rough draft trans. from mono. Conference on Heat [and Mass] Transfer [held in] Minsk, 5-10 June 61. [Proceedings] 7p.

DESCRIPTORS: *Heat transfer, Fluidized solids, High frequency, *Particles, Electromagnetic properties, Transition temperature, Calorimetry, Cooling.

A high-frequency method is described for investigating heat transfer in a fluidized bed with internal heat sources. In this method, developed at the S. M. Kirov Ural Polytechnic Institute, the continual supply of heat in a mass of particles is assured by eddy currents when an apparatus with a fluidized bed is introduced into a hf magnetic field. Control of the amount of heat supplied by the eddy currents depends on the frequency and the strength of the magnetic field, the size of the particles, and the electromagnetic properties of the particles.

Zlunitsyn, S. A. and Rudenko, N. S.
THE COMPRESSIBILITY OF HYDROGEN AT LOW TEMPERATURES, tr. by George N. Kasachkoff and George F. Hill. 19 Feb 62 [8]p. 6 refs. AOMC Trans. nr 13-62.
Order from OTS or SLA $1.10 62-15999

Trans. of Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki (USSR) 1946, v. 16, no. 9, p. 776-779.

DESCRIPTORS: *Hydrogen, Gas cylinders, Compressors, Temperature, Gases, Vapor pressure.

The paper contains the results of measurement of the compressibility of H_2 at $T = 65.0^{\circ}K$, $T = 77.7^{\circ}K$, $T = 90.6^{\circ}K$. An apparatus is described for measurement of the compressibility of gases at low temperatures. (Author)

Wave Propagation

Grigoryan, S. S.
ON THE MOTION OF A SLENDER SOLID BODY UNDER THE EFFECT OF A STRONG SHOCK-WAVE. [1959] 3p. 1 ref. MDF G-162.
Order from OTS or SLA $1.10 62-13388

Trans. of A[kademiya] N[auk] SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izv[estiya]: Mekhonika i Mashinostroenia, 1959, no. 1, p. 165-166.

DESCRIPTORS: *Solids, Motion, *Shock waves, Propagation, Numerical analysis, Differential equations, Pressure.

Malyuzhinets, G. D.
EEN VERALGEMENING VAN DE FORMULE VAN WEIL VOOR HET GOLFVELD BOVEN EEN ABSORBEREND VLAK (On a Generalization of the Formula of Weyl for a Wave Field above an Absorbing Plane) tr. by J. H. van Santen. 8p. 4 refs. MTWL: 183. (text in Dutch).
Order from OTS or ETC $1.55 61-17829

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 60, p. 367-370.

DESCRIPTORS: Absorption, *Electromagnetic waves, *Propagation, Theory.

Remizov, L. T., Golubtsov, M. G., and Tyufyakin, L. S.
RECEIVING DEVICE FOR MEASURING THE STATISTICAL CHARACTERISTICS OF SIGNALS IN THE LONG-RANGE TROSPHERIC PROPAGATION OF RADIO WAVES. 31 Jan 62 [13]p. Trans. Log. no. 1287-Z.
Order from OTS or SLA $1.60 62-15728

Trans. of #Radiotekhnika i Elektronika (USSR) 1960, v. 5, no. 7, p. 1065-1071.

DESCRIPTORS: *Radio waves, Propagation, Atmosphere, Statistical analysis, Signals, *Transmitter receivers.

A brief description is given of a receiving device designed for the simultaneous recording of the level variations of sinusoidal signals on three frequencies with a discretely changing interval between them. Considerations are advanced regarding the selection of the fundamental parameters of the receiving device and some test results are given. (Author)

RESEARCH METHODS, TECHNIQUES AND EQUIPMENT

ACTIVITIES OF HUNGARIAN INSTITUTIONS OF HIGHER LEARNING AND POLIOMYLITIS DISCUSSIONS AT HUNGARIAN-SOVIET MEDICAL MEETINGS. 8 Mar 61 [31]p. JPRS: 6880.
Order from OTS or SLA $3.60 62-19182

Trans. of Magyar Tudomany (Hungary) 1960, v. 5-(67) no. 12, p. 711-715, 718-721, 737-742, 749-751, 753-755.

DESCRIPTORS: Conferences, *Education, Scientific personnel, Universities, *Plants, Diseases, Countermeasures, Scientific reports, *Poliomyelitis Immunization, Hungary.

Contents:
High-leval and modern educational work of institutions of higher education, by Tibor Erdey-Gruz
Solution of scientific and practical tasks facing university departments, by Sandor Geleji
Eighty years of the Plant Protection Research Institute, by Gabor Ubrizsy
Survey of the activities of the Hungarian Academy of Sciences
The problem of epidemic poliomyelitis at the Hungarian-Soviet medical meetings, by Antal Babics.

ACTIVITIES OF THE HUNGARIAN ACADEMY OF SCIENCES. 12 Feb 62 [31]p. JPRS: 12459.
Order from OTS or SLA $3.60 62-19146

Trans. of Magyar Tudomany (Hungary) 1961, v. 6(68) no. 5, p. 313-317, no. 6, p. 362-363, and no. 7/8, p. 470-472.

DESCRIPTORS: *Scientific research, Scientific organizations, Scientific reports, *Research program administration.

ACTIVITIES, TRANSACTIONS AND AWARDS OF THE HUNGARIAN ACADEMY OF SCIENCES. 19 Dec 60 [48]p. JPRS: 6442.
Order from OTS or SLA $4.60 62-19181

Trans. of Magyar Tudomany (Hungary) [1960] v. [5]67, p. 299-326 and 341-348.

DESCRIPTORS: *Scientific research, Scientific personnel, Hungary.

Contents:
New developments, problems, and evaluations in the operations of the Hungarian Academy of Sciences, by Ferenc Erdei
Departmental meetings at the General Assembly of the Hungarian Academy of Sciences
Presentation of awards at the General Assembly of the Academy of Sciences (no. 120)
Resolutions adopted at the General Assembly of the Hungarian Academy of Sciences (no. 120).

ACTIVITIES OF THE CZECH AND SLOVAK ACADEMIES OF SCIENCES. 28 Aug 61 [47]p. JPRS: 4922.
Order from OTS or SLA $4.60 62-19520

Trans. of Slovenska Akademia Vied. Vestnik Czechoslavakia) 1960, v. 2, no. 2/3, p. 90-121 and 170-173.

DESCRIPTORS: Scientific research, *Scientific organizations, Research program administration, Czechoslovakia.

Contents:
Activities and plans of the Slovak Academy of Sciences, by Viliam Thurzo
Joint session of the presidia of the Czechoslovak Academy of Sciences and the Slovak Academy of Sciences
On sessions of the presidium of the Slovak Academy of Sciences.

BRIEF SCIENTIFIC REPORTS. 29 Nov 61 [6]p. JPRS: 11374.
Order from OTS or SLA $1.10 62-13667

Trans. of Akademiya Nauk SSSR. Vestnik, 1961 [v. 31] no. 1, p. 77-79.

DESCRIPTORS: *Water, Water supplies, Biology, *Antibodies, Silk, *Silkworms, *Herbicides, Maps, *Aerial photography, Scientific reports.

Contents:
Limnological station in Estonia
The application of antibodies in sericulture
Biological struggles against Povilikoi (convulvulus weeds)
A large scale geo-botanic map
New centers of science in the Kirgiz.

COMMUNIST STRESSES USE OF HAN YU P'IN YIN FOR LATIN LETTERS. 19 July 61 [10]p. JPRS: 8613.
Order from OTS or SLA $1.10 61-27226

Trans. of 4 articles from Kuang Ming Jih Pao (Chinese People's Republic) 1960, 26 Jan, p. 3.

DESCRIPTORS: Mathematics, Physics, Chemistry, Language, *Speech, *Reading, China.

Contents:
Han Yu P'in Yin pronunciation must be adopted, by Ma Ta-yu
The use of P'in Yin agrees with historical rules, by Chu K'o-cheng
Read letters according to the Han Yu P'in Yin system by Chieng Chung-jen
Read according to the Han Yu P'in Yin letters, by Liu Chia-sung.

DISCUSSION OF REPORTS OF SCIENTIFIC ACTIVITIES OF THE ACADEMY OF SCIENCES UKRAINIAN SSR. 20 Dec 61 [8]p. JPRS: 11709.
Order from OTS or SLA $1.10 62-15224

Trans. of Akademiya Nauk URSR [Kiev]. Dopovidi, 1961, no. 5, p. 577-581.

DESCRIPTORS: Scientific organizations, *Scientific research, *Research program administration.

FOREIGN DEVELOPMENTS IN MACHINE TRANSLATION AND INFORMATION PROCESSING NO. 37: [SELECTED ARTICLES]. 25 Sep 61 [48]p. 5 refs. JPRS: 8929.
Order from OTS or SLA $4.60 61-28908

Trans. of [Akademiya Nauk Gruzinskoi SSR, Tiflis. Institut Elektroniki, Avtomatiki i Telemekhaniki. Trudy] 1960, v. 1, p. 14-15, 27, 38-39 (abstract only) and 41-63 (complete trans.).

DESCRIPTORS: *Mchine translation, Speech, *Language, Coding, Vocabulary, Speech transmission.

Contents:
On routines for analysis of Georgian for machine translation, by M. E. Dameniya
Statistics of two-letter combinations in the literary Georgian, by T. G. Gachechiladze and A. I. Eliashvili
Process of distribution of letters in words for Georgian, by G. N. Tsertsvadze and T. G. Gachechiladze
Some problems in coding the vowel sounds of speech, by A. G. Kakauridze.

MATHEMATICS AND LANGUAGE. Foreign Developments in Machine Translation and Information Processing no. 57. 6 Dec 61 [9]p. JPRS: 11412.
Order from OTS or SLA $1.10 62-11080

Trans. of Tekhnika Molodezhi (USSR) 1961 [v. 29] no. 1, p. 10-12.

DESCRIPTORS: *Machine translation, *Cybernetics, *Language, Vocabulary, Speech, Speech transmission, Mathematics, Digital computers, Computers, Information theory.

Answers of Professor V. A. Zvegintsev, head of the Chair of General and Comparative Historical Linquistics, of Moscow State University, are given to the following questions: (1) What is the nature of the practical problems that applied linguistics is capable of solving? (2) What significance does cybernetics have for the development of linguistics? (3) What significance does the study of the exact sound composition of speech have? (4) What is an "intermediate language" and what qualities should such a language have?

NORWEGIAN PATENTS IN ENGLISH TRANSLATION, NOS. 99252-99267, 99269-99282, AND 99048 REV. 9 Apr 62, 31 nos.
Order from AC $1.85/each

DESCRIPTORS: *Patents, Inventions, Norway, Dyes, Manufacturing methods, Lubricants, Sheets, Metals, Heat treatment, Pipes, Couplings, Clutches, Steel, Iron, Corrosion inhibition, Paper, Tractors, Air brakes, Hoists, Hatches, Conveyors, Textiles, Life preservers, Boats, Plywood, Propeller hubs, Marine propellers, Hydraulic engines, Cartridges, Blast, Ceramic materials, Washing machines, Valves, Protective coverings.

NORWEGIAN PATENTS IN ENGLISH TRANSLATION, NOS. 99298-99363. 1 May 62, 66 nos.
Order from AC $1.85/each

DESCRIPTORS: *Patents, *Inventions, *Norway, Lubrication, Glass textiles, Walls, Towers, Reamers, Turbines, Saw blades, Welding, Lubricants, Pneumatic life rafts, Transparent panels, Paints, Threads, Pipes, Rivets, Flotation, Cooking devices, Magnesium compounds, Bleaching, Powders, Oxides, Steel, Furnaces, Pyrolysis, Dehydration, Furniture, Ores, Aluminum, Niobium, Tantallum, Slide fasteners, Money, Seeds, Agricultural machinery, Food, Tractors, Reflectors, Aerosols, Explosives, Sheets, Printing, Colloids, Machines, Railroad tracks, Detents, Cleaning fluids, Cyclohexanones

SCIENTIA, 1958, NO. 7: SELECTED TRANSLATIONS. 20 Dec 61 [51]p. 8 refs. JPRS: 11743.
Order from OTS or SLA $5.60 62-15383

Trans. of K'o Hsüeh T'ung Pao (Chinese People's Republic) 1958, no. 7, p. 209-224.

DESCRIPTORS: *Science, Periodicals, China, Tungstic acid, Acids, Synthesis, Precipitation, Molybdic acid, Dehydration, Temperature, Ammonium radicals, Vanadates, Influenza viruses, Viruses, Inhibition, Trees, Transplantation, Silkworms, Worms, Culture media, Power plants, Design, Conferences, Solids, Solid state physics, Electrons, Electron transitions, Psychology, Symposia.

Contents:
Pledges by various Academia Sinica departments and laboratories
Homogeneous precipitation method applied to the preparation of yellow tungstic acid, by Ku I-tung
Precipitation conditions and dehydration temperature of yellow molybdic acid, by Ku I-tung and Hsu Ju-jen
Preparation and application of 1:3 ammonium polyvanadate, by Ku I-tung and Hsu Ju-jen
Inhibitory action of some elements on influenza virus III, by Wang Shan-yuan
Preliminary success in the experiment of transplanting ficus elastica northward, by Shen Lu-sheng
Cultivation of silkworm (bombyx mori) tissues by mono layer tissue culture method, by Liu Nien-ts'ui and others
Congress of the Joint Sino-Soviet Committee of the Comprehensive Expedition of the Heilungkiang river valley (no. 2) by Yang Wen
Scientific conference of the departments of mathematics physics and chemistry of Academia Sinica on the progress in electron theory of solids, by Yang T'ung-t'ang
Session (no. 2) of the first executive committee of the Chinese Psychological Association, by Ch'en Ta-jou
Enlarged meeting of the third session of the publication commission of Academia Sinica
Academia Sinica Institutes reorganized
English table of contents from the original source.

SCIENTIFIC DEVELOPMENTS AND PERSONALITIES IN HUNGARY. 7 Aug 61 [36]p. JPRS: 9730.
Order from OTS or SLA $3.60 62-19588

Trans. of excerpts from Magyar Tudomany (Hungary) [1961] v. 6[68] no. 3, p. 183-190, 200-203; no. 4, p. 237-240, 249, 254-256.

DESCRIPTORS: *Scientific research, *Scientific personnel, Wounds, Therapy, Biochemistry.

Contents:
From the life of the Hungarian Academy of Sciences
Functions of the Academy library
Joint symposium of clinicists and biologists on the healing of wounds, by Bruno F. Straub
A new stage in Hungarian-Soviet scientific cooperation
Recent doctors and candidates
On the Biochemical Institute of the Hungarian Academy of Sciences, by Bruno F. Straub and Pal Elodi
From the life of the Hungarian Academy of Sciences
Recent doctors and candidates.

TRANSLATED SWISS PATENTS, NO. 2. 15 June 62, 147p.
Order from OTS $2.75 62-11024

Trans. of Swiss patents including patent number, class number, name and residence of patentee and patent owner, title, filing and priority date, and first claim. Excluded are those patents bearing priority dates from Australia, Austria, Canada, Great Britain, United States, and West Germany.

DESCRIPTORS: *Patents, Inventions, Switzerland.

Balazsy, S. and Varga, Gy.
ORGANIZATION AND COST OF SCIENTIFIC RESEARCH IN HUNGARY (A Tudomanyos Kutatomunka Szervezesenek es Gazdasagossaganak Nehany Kerdese). 7 Dec 61 [61]p. 10 refs. JPRS: 11399.
Order from OTS or SLA $6.60 62-19535

Trans. of Kozgazdasagi Szemele (Hungary) 1961, v. 8, no. 7, p. 817-837.

DESCRIPTORS: *Scientific research, Research program administration, Costs, *Hungary.

Fedorchenko, I. M.
THE MAIN RESULTS OF SCIENTIFIC ACTIVITY OF THE ACADEMY OF SCIENCES OF THE UKRAINIAN SSR DURING 1960 AND TASKS FOR 1961. 20 Dec 61 [29]p. JPRS: 11750.
Order from OTS or SLA $2.60 62-15211

Trans. of Akademiya Nauk URSR [Kiev]. Dopovidi, 1961, no. 5, p. 558-577.

DESCRIPTORS: *Scientific research, *Industrial research, Conferences.

Iordanskaya, L. N.
TWO OPERATORS FOR PROCESSING WORD COMBINATIONS WITH "STRONG GOVERNMENT" (FOR AUTOMATIC SYNTACTIC ANALYSIS). Foreign Developments in Machine Translation and Information Processing no. 72. 13 Feb 62 [44]p. JPRS: 12441.
Order from OTS or SLA $4.60 62-15843

Trans. of mono. Dva Operatora Obrabotki Slovosochetanii s "Sil'nym Upravleniem" Moscow, 1961, p. 3-33.

DESCRIPTORS: *Machine translation, Language, Vocabulary, Cybernetics.

Moloshnaya, T. N. and Nikolaeva, T. M.
THE TRANSLATING MACHINE WRITTEN BY P. P. TROYANSKII, MOSCOW, 1959: REVIEW OF THE BOOK. Foreign Developments in Machine Translation and Information Processing no. 70. 19 Jan 62 [9]p. JPRS: 12049.
Order from OTS or SLA $1.10 62-15462

Trans. of mono. Problemy Kibernetiki (Problems of Cybernetics) Moscow, 1961, sec. 10, p. 287-288.

DESCRIPTORS: *Machine translation, Automatic, Dictionaries, Language, Vocabulary.

Nowacki, Witold.
RESEARCH PLANS FOR INSTITUTES OF THE POLISH ACADEMY OF SCIENCES FOR 1961 AND 1961-65. 6 Nov 61 [25]p. JPRS: 10941.
Order from OTS or SLA $2.60 62-19507

Trans. of Nauka Polska, 1961 [v. 9] no. 1(33) p. 1-16.

DESCRIPTORS: *Scientific research, Research program administration, *Poland.

[V]a[s]ilevskii, Yu.
CYBERNETIC MACHINES. 29 Nov 61 [15]p.
FTD-TT-61-221; AD-268 055.
Order from OTS or SLA $1.60 62-15164

Unedited rough draft trans. from Ekonomicheskaya Gazeta (USSR) 1961, no. 8, p. 21-23.
Another trans. is available from OTS or SLA $1.60 as 62-13847, JPRS-11561, 22 Dec 61 [12]p.

DESCRIPTORS: *Cybernetics, *Automation, *Computers.

Vasilevskii, Yu.
CYBERNETIC MACHINES. 22 Dec 61 [12]p. JPRS:11561.
Order from OTS or SLA $1.60 62-13847

Trans. from Ekonomicheskaya Gazeta (USSR) 1961 [no. 8] p. 21-23.

DESCRIPTORS: *Cybernetics, Machines, *Digital computers, Computers, Design.

The methods and techniques are considered that should be adopted in future engineering development in relation to the introduction of these machines into many very important spheres of human activity.

Communication Theory

FOREIGN DEVELOPMENTS IN MACHINE TRANSLATION AND INFORMATION PROCESSING NO. 40.
16 Oct 61 [36]p. JPRS: 10508.
Order from OTS or SLA $3.60 62-23467

Trans. of Konferentsiya po Obrabotke Informatsii, Mashinnomu Perevodu i Avtomaticheskomu Chteniyu Teksta. Doklady (USSR) 1961 [no. 11] (3 reports).

DESCRIPTORS: *Reading machines, *Computers, *Machine translation, Coding, Vocabulary, Literature, Language, Dictionaries.

Contents:
Investigation of ancient Mayan manuscripts with the aid of an electronic computer: Methods by E. V. Evreinov and others
Investigation of ancient Mayan manuscripts with the aid of an electronic computer: Algorithms and programs, by E. V. Evreinov and others
Investigation of ancient manuscripts with the aid of an electronic computer: Preliminary results, by E. V. Evreinov and others. (See also 61-21410)

HERALD OF COMMUNICATIONS, 1961, NO. 9,
20 Dec 61 [161]p. JPRS: 11490.
Order from OTS or SLA $12.00 62-13676

Trans. of Vestnik Svyazi (USSR) 1961 [v. 21] no. 9[258] including covers.

DESCRIPTORS: *Communication systems, *Communication equipments, Space flight, Communism, Labor, Production, Automation, Telephone communication systems, Telegraph systems, Postal systems, Radio communication systems, Radio-telephones, Plastics, Splicing tools, Temperature.

Contents:
The new feat of Soviet People
To the 22nd CPSU Congress, a befitting welcome
To the 22nd CPSU Congress, our labor, our creativity
Communication workers' personal gifts of labor
The quality of equipment should be improved and its dependability increased
Complete fulfillment of pledges in honor of the 22nd Party Congress must be achieved, by N. T. Bychkov
We are discussing the draft of the program of the Soviet Union Communist Party, by A. G. Serikov
Comments of the front-rank workers of the USSR central (Moscow) telegraph office
All-around telephone service should be created in rural areas, by I. I. Bulygin
Radio communication earth-"Vostok-2", by V. A. Kotel'nikov
Carrier-telephony terminal V-60-S, by N. E. Popov and I. P. Petrushin
Multi-program broadcasting over telephone channels, by I. A. Shamshin
Low-temperature splicing of polyvinyl chloride jackets and cold splicing of polyethylene jackets, by A. M. Popov
Automation of telephone and telegraph service, by M. S. Tarakanova and A. V. Gavrilov
Front-rank workers of radiofication, intra-rayon telephone service and of television receiving network are sharing their experience
We are the service to the population, by A. S. Gudzovskii
Transport of mail in containers in mail cars, by V. A. Karasev
Shortcomings in the service to the population must be eliminated more rapidly, by I. G. Postnov
All-union exhibition of the engineering creativity of the students and instructors of technical schools and of the students of the institutes of communications (no. 7)
The role of production laboratories in the technical progress of communications industry should be enhanced
All-union scientific session on radio problems
Latest communication equipment.

HERALD OF COMMUNICATIONS, 1961, NO. 10[259]
19 Jan 62 [158]p. JPRS: 12057.
Order from OTS or SLA $11.50 62-15464

Trans. of Vestnik Svyazi (USSR) 1961 [v. 21] no. 10-[259] including covers.

DESCRIPTORS: *Communication systems, *Communication equipment, Telegraph systems, Telephone communication systems, Radio braodcasting, Television communication systems, Postal systems, Labor, Production, Construction.

Contents:
The largest post office near railroad
Glory to Lenin party and to the nation, the builder of communism
The today and tomorrow of long distance communication service, by I. S. Ravich
Radio and television for Soviet people, by A. L. Badalov
To the population, a perfect postal service, by O. I. Makarov
In sunny Armenia

We are re-equipping the telegraph communication service, by P. P. Bazhan
Some problems of the further development of telephone service in rural areas, by B. G. Nalbandyan
Adoption of new equipment in the construction of communication installations should be speeded up, by Yu. D. Farber
Advanced experience helps to improve the quality of work, by D. A. Ishin
Labor productivity is rising, by B. K. Batuev
Technical improvement of communication facilities, by G. L. Polyakov
Contribution of the collective of the USSR Central (Moscow) Telegraph Office, by E. P. Fedortsov
Socialist competition is the foundation of success, by N. A. Gulyayev
The system of direct connections and subscribers telegraph links are being developed, by E. A. Krasnotsvetov
Additional communication links, equipment, sections, , by A. V. Yatsun and L. I. Levchenko
Installation of new semiautomatic equipment, by S. N. Vasil'ev
We are striving for high efficiency and exemplary order at the enterprise, by A. F. Krivomazova
The virtue of educating people, by S. G. Volkov and L. Ya. Yakovlev
There should be no lagging workers next to you, by V. I. Osipova
The one in front is the one who helps a colleague, by A. N. Kudinov
Pre-congress pledges have been fulfilled, by D. D. Zemlyannikova
To learn to work and live in communist manner, by N. M. Gulishiani
The best telephone operator of kaluga communications office, by F. K. Kurbatskii
Not a single complaint, by I. A. Vodop'yanov and L. V. Zingorenko
Output quotas are being overfulfilled every month, by K. I. Velevko
We will fulfill the plans ahead of schedule, by I. P. Korshunov
All knowledge and efforts to the beloved work, by V. I. Starchikov
To the lagging communications branch offices, by V. M. Salukov and P. D. Blagushin
I am working on links with heavier traffic, by E. N. Kostenko
A through checking of telegrams, by V. S. Emelina
Solicitude for Soviet people, by P. A. Lunev
When life is in danger, by Yu. Stvolinskii
In search of the addressee
Thank you, comrades
At heart's behest
A high sense of duty
A complaint about 9 kopecks, by N. M. Kozharov
In the interests of workers

Geshelin, M. G., Mamikonov, A. G., and Levin, B. M.
A DEVICE FOR CONVERTING AN ANGLE OF ROTATION INTO A COMPLETE CODE WITH STATIC MAGNETIC PICKUP. 3 Oct 61 [3]p. MCL-1307/1+2; AD-265 713.
Order from OTS or SLA $1.10 61-28996

Unedited rough draft trans. from Byulleten' Izobretenii (USSR) 1960, no. 9 (USSR [patent appl.] announcement no. 625621/26, 18 Apr 59).

DESCRIPTORS: *Telemeter systems, Telemetering transmitters, Telemetering data, Transmission, Coding, Reliability, *Data transmission systems, Digital systems, *Switching circuits, Magnetic recording systems, Transducers.

For the purpose of increasing the reliability of telemetransmission of data, a code wheel is used, on the outer perimeter of which are located magnetic selection elements, which form a closed magnetic circuit along the generatrix of the wheel for four pickup coils and along the perimeter of the wheel for the fifth, thereby ensuring circular coding with a complete code.

Pushnoi, B. M.
GEOMETRIC CONSTRUCTION OF OPTIMUM CODES Mar 60 [15]p. 5 refs. AFCRL-TN-60-181; MDF P-142; AD-234 718.
Order from OTS $0.50 62-11515

Trans. of #Elektrosvyaz' (USSR) 1959, v. 13, no. 10, p. 3-12.

DESCRIPTORS: *Communication systems, *Coding, Communication equipment, Communication theory, Mathematical analysis.

The possibilities are considered of constructing codes with increased interference-immunity. It is shown that the points of optimum code signals coincide with the vertices of certain regular multidimensional polyhedra. Also, a number of multidimensional irregular polyhedra whose vertices can be points of optimum code signals is investigated. (Author)

Information Theory

FOREIGN DEVELOPMENTS IN MACHINE TRANSLATION AND INFORMATION PROCESSING. 21 Nov 60 [27]p. JPRS: 6239.
Order from OTS or SLA $2.60 62-19354

Trans. of Traduction Automatique (France) 1960, no. 5, p. 2-13, 17-19, 24, 29-33.

DESCRIPTORS: *Machine translation, Information theory, Data processing systems, *Language, *Documentation, Dictionaries, Indexes, Communications theory, Textbooks.

Contents:
Introduction
Concerning concordances, by Pierre Meile
The problem of true polysemia and the contextual parameter method, by Y. Gentilhomme and R. Tabory
Automatic translation around the world
Deweze's book on automatic treatment of the Russian verb
News of ATALA

FOREIGN DEVELOPMENTS IN MACHINE TRANSLATION AND INFORMATION PROCESSING.
21 Nov 60 [23]p. JPRS: 6240.
Order from OTS or SLA $2.60 62-19355

Trans. of Traduction Automatique (France) 1960, no. 2, p. 3-19, 22-25, 34.

DESCRIPTORS: *Machine translation, Information theory, Data processing systems, *Language, Communications theory.

Contents:
Grammatical structure and automatic translation, by Georges Gougenheim
On the notion of congruence, by Andre Lentin
Automatic translation around the worls
Notes and discussion
News of ATALA

Dobrowowolski, Marian.
ON THE DISSEMINATION OF SCIENTIFIC INFORMATION IN THE POLISH PRESS. 16 Jan 62 [6]p. 23 refs. JPRS: 11978.
Order from OTS or SLA $1.10 62-19579

Partial trans. (some parts summarized) of Nauka Polska, 1961, v. 9, no. 1(33) p. 276-280.

DESCRIPTORS: Science, *Data, Transmission, *Scientific research, Poland, Information theory, Documentation

Il'yin, G. B.
A METHOD OF TIME-COMPRESSION AND EXPANSION OF CONTINUOUSLY PASSING INFORMATION. 4 Oct 61 [4]p. MCL-1319/1+2; AD-265 722.
Order from OTS or SLA $1.10 61-28994

Unedited rough draft trans. from Byulleten' Izobretenii (USSR) 1960, no. 17 (USSR [patent appl.] announcement no. 625027/26, 14 Apr 59).

DESCRIPTORS: *Data transmission systems, *Data processing systems, Programming, Magnetic recording systems, Memory devices, Switching circuits, Time signals, Reading machines.

A method of time-compression and expansion of continuously passing information of telephone type, based on rapid reading of slowly recorded information, is described, differing in that, for the purpose of compressing information in portions and eliminating a cumulative time error resulting from asynchronous functioning of the memory material, during compression the passing information is recorded by continuously moving magnetic heads alternately on two stationary circular paths with periodic switching of the recording from the first ring to the second and back again by timing signals, which simultaneously switch the reading and quenching heads, continuously moving at a speed n times greater, correspondingly from the second ring to the first and back again, while during expansion of the compressed information the recording speed is chosen n times greater than the counting and quenching speed.

Petrova, L. T.
SOME APPLICATIONS OF A SCHEME OF SYMBOLISM IN MACHINE PROGRAMMING. Foreign Developments in Machine Translation and Information processing no. 61. 28 Dec 61 [15]p. JPRS: 11701.
Order from OTS or SLA $1.60 62-15221

Trans. of Zhurnal Vychislitel'noi Matematiki i Matematicheskoi Fiziki (USSR) 1961, v. 1, no. 3, p. 513-522.

Portions of this report will not reproduce well.

DESCRIPTORS: *Machine translation, Digital computers, Computers, *Programming, Coding, Automation.

SOCIAL SCIENCES

LIST OF DOCTORS WHO ACQUIRED SPECIAL QUALIFICATIONS AT THE SLOVAK INSTITUTE FOR POSTGRADUATE MEDICAL TRAINING, FROM 11 FEB-10 MAR 61. 6 Nov 61 [5]p. JPRS: 10942.
Order from OTS or SLA $1.10 62-19506

Trans. of Lekarsky Obzor (Czechoslovakia) 1961 [v. 10] no. 5, p. 306.

DESCRIPTORS: *Medical personnel, Training, Education, Czechoslovakia.

THE USSR IN FIGURES IN 1959: CULTURE SECTION, TABLES 1-10 [AND] MATERIAL PROSPERITY OF THE SOVIET PEOPLE, TABLE 11. [1961] [6]p. [DSIR] NLL M. 4032.
Order from OTS or SLA $1.10 61-28203

Trans. of mono. SSSR v Tsiffrakh v 1959 Godu, pub. by the Press of the Central Statistical Directorate of the Council of Ministers of the USSR, 1960, tables 1-11.

DESCRIPTORS: *Education, *Training, Classification, *Students, Universities.

Conrad, P.
SCIENTIFIC MANAGEMENT STAFF WORK IN THE SERVICE OF TOP ADMINISTRATION. V. FROM COST BREAKDOWN TO PROFIT BUDGETING. Feb 62.
Order from BISI £6 5s BISI-1974, pt. 5

Trans. of Stahl [und] Eisen (West Germany) 1960, v. 80, 27 Oct, p. 1564-1573.

DESCRIPTORS: *Management engineering, Economics, Costs.

Gol'shteyn, E. G. and Yudin, D. B.
CONCERNING ONE CLASS OF PROBLEMS IN PLANNING THE NATIONAL ECONOMY. 22 Nov 61 [40]p. 3 refs. JPRS: 11175.
Order from OTS or SLA $3.60 62-13523

Trans. of #Problemy Kibernetiki (USSR) 1961, no. 3, p. 165-182.

DESCRIPTORS: Cybernetics, Automation, *Industrial production, *Transportation, *Linear programming, Scheduling, *Economics.

The classical transport problem and its modifications are formulated, with account taken of the limitation on the carrying capacity of the means of communication. Two models of planning of manufacture and transportation of a uniform product are considered. These models become much more complicated and formulation is given for the planning problem, in which all the schemes are included. General considerations are advanced concerning the method of solving the problem. The algorithm for the solution of the problem is developed. Ways are indicated of generalizing this method to include more complicated models, particularly the model of planning of manufacture and transportation of a non-uniform product.

Kramer, Paul.
GAME OF SKILL, tr. by F. H. B. 13 Nov 61, 12p. (7 figs. omitted).
Order from OTS or SLA $1.60 62-13499

Trans. of Swiss patent 218, 907, cl. 54c, appl. 4 Jan 40, reg. 15 Jan 42, pub. 16 Apr 42.

DESCRIPTORS: *Recreation, Instrumentation.

The invention relates to a game of skill characterized in that it comprizes two hinged figures representing boxers and universally movable at will in a boxing ring, by means of a mechanism manually operated by two players. The game consists in that each player tries to strike the head of the opposing boxer causing downfall of the boxer thus struck. (Author)

Marchenko, D. A.
DETERMINATION OF THE RATIO OF CAPITAL INVESTMENTS IN OIL EXTRACTIVE INDUSTRY. 6 Nov 61 [10]p. JPRS: 11012.
Order from OTS or SLA $1.10 62-13436

Trans. of Neftyanoe Khozyaistvo (USSR) 1961 [v. 39] no. 4, p. 1-6.

DESCRIPTORS: *Oils, Deposits, Industrial production, *Economics, Money, Well drilling, *Petroleum industry.

Expenditures per unit of power input or per unit of increase of industrial production are good technical-economic indicators in the analysis of the effectiveness of capital investments directed toward the construction of new production installations or toward expansion, technological re-equipment and reconstruction of going establishments. In the oil extractive industry there are two principal indexes of development of the branch: the increase of oil reserves available to industry and indexes of oil output. Introduction of a "conditional increase in production" index in the practice of planning of capital investments in this branch of industry enables one to extend the analysis of the technical-economic indexes in the oil-production industry.

Michajlow, Wlodzimierz.
PLANNING PRESENT AND FUTURE POLISH SCIENTIFIC RESEARCH (Obecne i Przyszle Zadania w Dziedzinie Planowania Badan Naukowych). 2 Oct 61 [15]p. JPRS: 10295.
Order from OTS or SLA $1.60 62-19530

Trans. of Zycie Szkoly Wyzszej (Poland) 1961, v. 9, no. 6, p. 3-15.

DESCRIPTORS: *Scientific research, Poland, *Education, Training.

Radoi, A. and Cringu, A.
DATA RELATING TO CITIES OF THE RUMANIAN PEOPLE'S REPUBLIC (Date cu Privire la Orasele R. P. Romine). 8 Mar 61 [10]p. JPRS: 7909.
Order from OTS or SLA $1.10 62-19327

Trans. of Natura (Rumania) 1960, v. 12, no. 4, p. 95-97.

DESCRIPTORS: *Urban areas, *Rumania, Growth, Industrial production.

Ranky, Miklos.
TEACHING TASKS IN CONNECTION WITH AUTOMATION. 1 Mar 61 [7]p. JPRS: 6826.
Order from OTS or SLA $1.10 62-19418

Trans. Felsooktatasi Szemle (Hungary) 1960, v. 9, no. 10, p. 635-638.

DESCRIPTORS: *Automation, *Education, Industrial research, Industrial production, Metallurgy, Machines, Economics.

Rimashevakaya, N.
SCIENTIFIC SEMINARS ON THE USE OF MATHEMATICAL AND STATISTICAL METHODS FOR THE STUDY OF NATIONAL CONSUMPTION PROBLEMS. 22 Nov 61 [8]p. JPRS: 11195.
Order from OTS or SLA $1.10 62-13531

Trans. of Byulleten' Nauchnoi Informatsii. Trud i Zarabotnaya Plata (USSR) 1960, no. 12, p. 52-56.

DESCRIPTORS: Symposia, *Economics, Consumption, Statistical processes, Applied mathematics, Mathematics.

Sandig, A.
SCIENTIFIC MANAGEMENT STAFF WORK IN THE SERVICE OF TOP ADMINISTRATION. IV. THE TECHNICAL REPORT AS A BASIS FOR WORK OPERATION PLANNING. Feb 62.
Order from BISI £4 5s BISI-1974, pt. 4

Trans. of Stahl [und] Eisen (West Germany) 1960, v. 80, 27 Oct, p. 1554-1564.

DESCRIPTORS: *Management engineering, Reports, Production, Steel industry, Iron industry, Economics.

Spitzer, H.
NEW METHODS OF WORK ORGANIZATION. Feb 62, 14 refs.
Order from BISI £3 15s BISI-2433

Trans. of Stahl [und] Eisen (West Germany) 1960, v. 80, 27 Oct, p. 1618-1623.

DESCRIPTORS: *Employee relations, Automation.

Zieleniewski, Jan.
FROM THE LABORATORY OF GENERAL WORK ORGANIZATION PROBLEMS (Pracownia Ogolnych Problemow Organizacji Pracy). 12 Jan 62 [11]p.
JPRS: 11937.
Order from OTS or SLA $1.60 62-19563

Trans. of Nauka Polska, 1961, v. 9, no. 1(33) p. 109-114.

DESCRIPTORS: Scientific organization, *Management engineering, *Economics.

The laboratory was established in 1958 by the Polish Academy of Sciences. Its chief task is to study basic organization problems in the economic field.

BOOK REVIEWS

The following book reviews can be ordered by number from OTS or SLA for $1.10 each. Each review includes, in addition to the material shown, a detailed statement of the coverage of the book and detailed table of contents.

BR-SOV/5410
Tashkentskaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii. Tashkent, 1959.
TRANSACTIONS OF THE TASHKENT CONFERENCE ON THE PEACEFUL USES OF ATOMIC ENERGY V. 2. (Trudy) Tashkent; Izd-vo AN UzSSR, 1960. 449p. Errata slip inserted. 1,500 copies printed.

BR-SOV/5469
Soveshchaniye po kriticheskim yavleniam i flyuktuatsiyam v rastvorakh. Moscow, 1960.
CRITICAL PHENOMENA AND FLUCTUATIONS IN SOLUTIONS; TRANSACTIONS OF THE CONFERENCE, JANUARY 1960 (Kriticheskiye yavleniya i flyuktuatsee v rastvorakh; trudy soveshchaniya, yanvar' 1960 g.) Moscow, Izd-vo AN SSSR, 1960. 190p. 2,500 copies printed.

BR-SOV/5601
Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.
CONSTRUCTION ERECTION CRANES; A MANUAL (Stroitel'no-montazhnyye krany; spravochnoye posobiye) 2d ed. Moscow, Gosstroyizdat, 1960. 411p. Errata slip inserted. 30,000 copies printed.

BR-SOV/5654
Mikhaylov, Fedor Andreyevich
FREE VIBRATIONS OF LINEAR SYSTEMS WITH VARIABLE PARAMETERS (Svobodnyye kolebaniya lineynykh sistem s peremennymi parametrami) Moscow, Oborongiz, 1961. 269p. (Series: Moscow. Aviatsionnyy institut. Trudy, vyp. 135) Errata slip inserted. 4,100 copies printed.

BR-SOV/5659
Rusinov, Mikhail Mikhaylovich
TECHNICAL OPTICS (Tekhnicheskaya optika) Moscow, Mashgiz, 1961. 327p. Errata slip inserted. 15,000 copies printed.

BR-SOV/5666
Azizyan, A. K., and V. F. Reut, eds.
GAGARIN'S FLIGHT; MATERIALS PUBLISHED IN "PRAVDA" (Polet Gargarina; materialy, opublikovannyye v "Pravde") Moscow, Izd-vo "Pravda," 1961. 46p. 300,000 copies printed. 1p.

BR-SOV/5672
Berman, Georgiy Nikolayevich (Deceased)
COLLECTION OF PROBLEMS FOR A COURSE ON MATHEMATICAL ANALYSIS (Sbornik zadach po kursu matematicheskogo analiza) 10th ed., rev. and enl. Moscow, Fizmatgiz, 1960. 443p. 75,000 copies printed.

BR-SOV/5693
Vasil'yev, Aleksandr Sergeyevich, and Aleksandr Yevgen'yevich Slukhotskiy
GAS-FILLED AND VACUUM-TUBE HIGH FREQUENCY INVERTERS (Ionnyye i elektronnyye invertory vysokoy chastoty) Moscow, Gosenergoizdat, 1961. 177p. 6,500 copies printed.

BR-SOV/5696
Bidulya, Pavel Nikolayevich
THE MANUFACTURE OF STEEL CASTINGS (Tekhnologiya stal'nykh otlivok) Moscow, Metallurgizdat, 1961. 352p. 10,250 copies printed.

BR-SOV/5700
Churayan, Artemiy Luk'yanovich, and Shalva Andreyevich Dzhabua
CONSTRUCTION DESIGNS AND UNITS FOR LARGE-PANEL BUILDINGS IN SEISMIC REGIONS (Konstruktivnyye skhemy i uzly krupnopanel'nykh zdaniy dlya seysmicheskikh rayonov) Moscow, Gosstroyizdat, 1961. 238p. 5,000 copies printed.

BR-SOV/5702
Rayevskiy, Nikolay Petrovich, and Mikhail Ivanovich Subbotin
LINEAR ACCELERATION MEASUREMENTS (Izmereniye lineynykh uskoreniy) Moscow, Izd-vo AN SSSR, 1961. 62p. 5,000 copies printed.

BR-SOV/5728
Borisenkov, Yevgeniy Panteleymonovich
PROBLEMS IN THE ENERGETICS OF ATMOSPHERIC PROCESSES (Voprosy energetiki atmosfernykh protsessov) Leningrad, Gidrometeoizdat, 1960. 167p. 3,000 copies printed.

BR-SOV/5729
Leningrad. Glavnaya geofizicheskaya observatoriya.
PROBLEMS IN APPLIED CLIMATOLOGY;COLLECTION OF ARTICLES (Voprosy prikladnoy klimatologii;sbornik statey) Leningrad, Gidrometeoizdat, 1960. 159p. Errata slip inserted. 1,050 copies printed.

BR-SOV/5730
Bort, M. M. and others.
ELECTRIC WELDOR'S HANDBOOK (Spravochnik elektrosvarshchika) 3rd ed., rev. Moscow, Mashgiz, 1961. 748p. 75,000 copies printed.

BR-SOV/5731
Pshenichnov, Gennadiy Ivanovich
COMPUTATION OF LATTICED CYLINDRICAL SHELLS (Raschet setchatykh tsilindricheskikh obolochek)Moscow, Izd-vo AN SSSR, 1961. 110p. 4,000 copies printed.

BR-SOV/5732
Pikel'ner, Solomon Borisovich
PRINCIPLES OF COSMIC ELECTRO-DYNAMICS (Osnovy kosmicheskoy elektrodinamiki) Moscow, Fizmatgiz, 1961. 295p. 5,000 copies printed.

BR-POL/5733
Polskie Towarzystwo Matematyczne
MATHEMATICAL TRANSACTIONS (Prace matematyczne) Warsaw, Panstwowe Wydawn. Naukowe, 1961. 146p. (Series: Its: Roczniki. Seria I., [no] 5) 1,150 copies printed.

BR-SOV/5736
Lyashenko, Semen Vlasovich
APPLICATION OF TRIMMING-PRESS DIES HAVING BELLEVILLE-SPRING SHOCK ABSORBERS; EXPERIENCE OF THE MINSK TRACTOR PLANT (Primeneniye shtampov s amortizatorami iz tarel'chatykh pruzhin dlya obreznykh pressov; opyt Minskogo traktornogo zavoda) Leningrad [Leningradskiy Dom nauchno-tekhnicheskoy propagandy (LDNTP)] 1960. 15p. (Series: Obmen peredovym opytom. Seriya: Kovka i goryachaya shtampovka, vyp. 5)

BR-SOV/5740
Akademiya nauk SSSR. Institut mineralogii, geokhimii i kristallokhimii redkikh elementov.
PROBLEMS IN MINERALOGY, GEOCHEMISTRY, AND DEPOSIT FORMATION OF RARE ELEMENTS (Voprosy mineralogii, geokhimii i genezisa mestorozhdeniy redkikh elementov) Moscow, Izd-vo AN SSSR, 1960. 253p. (Series: Its: Trudy, vyp. 4) Errata printed on the inside of back cover. 2,200 copies printed.

BR-SOV/5741
Akademiya nauk SSSR. Laboratoriya sistem peredachi informatsii.
PROBLEMS OF INFORMATION TRANSFER. V. 8: DESIGNING OF RELAY CIRCUITS (Problemy peredachi informatsii. vyp. 8: Postroyeniye skhem releynogo deystviya) Moscow, Izd-vo AN SSSR, 1961. 131p. Errata printed on the inside of back cover. 2,600 copies printed.

BR-SOV/5742
Akademiya nauk SSSR. Mezhduvedomstvennyy komitet po provedeniyu Mezhdenarodnogo geofizicheskogo goda. VIII razdel programmy MGG: Shiroty i dolgoty.
PRELIMINARY DATA OF LATITUDE VARIATIONS AND MIGRATIONS OF THE EARTH'S POLES; COLLECTED ARTICLES. NO. 1) Moscow, Izd-vo AN SSSR, 1960. 97p. Errata slip inserted. 1,000 copies printed.

BR-SOV/5743
Akademiya nauk SSSR. Mezhduvedomstvennyy komitet po provedeniyu Mezhdunarodnogo geofizicheskogo goda. V. razdel programmy MGG: Ionosfera.
IONOSPHERIC RESEARCHES; COLLECTED ARTICLES. NO. 3(Issledovaniya ionosfery; sbornik statey) Moscow, Izd-vo AN USSR, 1960. 100p. 2,000 copies printed.

BR-SOV/5744
Akademiya nauk SSSR. Mezhduvedomstvennyy komitet po provedeniyu Mezhdunarodnogo geofizicheskogo goda. IV. razdel programmy MGG: Polyarnyye siyaniya i svecheniye nochnogo neba.
INVESTIGATIONS OF AURORAS: COLLECTED ARTICLES. NO. 4 (Issledovaniya polyarnykh siyaniy; sbornik statey) Moscow, Izd-vo AN SSSR, 1960. 77p. 2,000 copies printed.

BR-SOV/5747
Vsesoyuznoye soveshchaniye po redkim shchelochnym elementam. 1st, Novosibirsk, 1958.
RARE ALKALI ELEMENTS; COLLECTION OF REPORTS OF THE CONFERENCE ON THE CHEMISTRY, TECHNOLOGY, AND ANALYTICAL CHEMISTRY OF RARE ALKALI ELEMENTS, HELD 27-31 JANUARY, 1958 (Redkiye shchelochnyye elementy; sbornik dokladov soveshchaniya po khimii, tekhnologii i analiticheskoy khimii redkikh shchelochnykh elementov, 27-31 yanvarya 1958 g.) Novosibirsk, Izd-vo Sibirskogo otd. AN SSSR, 1960. 99p. 1,000 copies printed.

BR-SOV/5749
Golubev, Andrey Iovich
ANODIC OXIDATION OF ALUMINUM ALLOYS (Anodnoye okisleniye alyuminiyevykh splavov) Moscow, Izd-vo AN SSSR, 1961. 198p. Errata slip inserted. 2,800 copies printed.

BR-SOV/5750
Kotov, Or Kirillovich
THERMOCHEMICAL CASE HARDENING OF MACHINE PARTS (Poverkhnostnoye uprochneniye detaley mashin khimiko-termicheskimi metodami) 2d. ed., rev. and enl. Moscow, Mashgiz, 1961. 278p. Errata slip inserted. 6,040 copies printed.

BR-SOV/5751
Dubinin, N. P., ed.
STEEL CASTING; FOUNDRY FOREMAN'S HANDBOOK (Stal'noye lit'ye; spravochnik dlya masterov liteynogo proizvodstva) Moscow, Mashgiz, 1961. 887p. Errata slip inserted. 15,000 copies printed.

BR-SOV/5763
Vaynberg, David Veniaminovich, and Aleksandr Leonidovich Sinyavskiy
CALCULATION FOR CASINGS (Raschet obolochek) Kiyev, Gosstroyizdat UkrSSR, 1961. 118p. 5,500 copies printed.

BR-SOV/5765
Lerner, Aleksandr Yakovlevich
PRINCIPLES OF DESIGNING HIGH-SPEED SERVOMECHANISMS AND REGULATORS (Printsipy postroyeniya bystrodeystvuyushchikh sledyashchikh sistem i regulyatorov) Moscow, Gosenergoizdat, 1961. 151p. (Series: Biblioteka po avtomatike, vyp. 25) 16,000 copies printed.

BR-SOV/5772
Sokolov, Vasiliy Stepanovich
ISOTOPES IN AUTOMATION (Izotopy v avtomatike) [Moscow] Moskovskiy rabochiy, 1961. 126p. 8,000 copies printed.

BR-SOV/5777
Vinogradov, A. P., and D. I. Ryabchikov, eds.
METHODS FOR THE DETECTION AND ANALYSIS OF RARE ELEMENTS (Metody opredeleniya i analiza redkikh elementov) Moscow, Izd-vo AN SSSR, 1961. 667p. Errata slip inserted. 6,000 copies printed.

BR-SOV/5784
Chechulin, Anatoliy Arkad'yevich
PHYSICS OF THE ATOM, ATOMIC NUCLEUS, AND ELEMENTARY PARTICLES; TEXTBOOK FOR A GENERAL COURSE IN PHYSICS (Fizika atoma, atomnogo yadra i elementarnykh chastits; uchebnoye posobiye po obshchemu kursu fiziki) Leningrad, 1960. 152p. Errata slip inserted. 7,000 copies printed.

BR-SOV/5786
Belousova, Inna Mikhaylovna, and
Yuriy Mikhaylovich Shtukkenberg
NATURAL RADIOACTIVITY (Yestestvennaya radioaktivnost') Moscow, Medgiz, 1961. 218p. 4,000 copies printed.

BR-SOV/5793
Perov, Vitaliy Pavlovich
DESIGNING RADAR TRACKING SYSTEMS, TAKING INTO ACCOUNT RANDOM EFFECTS (Raschet radiolokatsionnykh sledyashchikh sistem s uchetom sluchaynykh vozdeystviy) Leningrad, Sudpromgiz, 1961. 167p. Errata slip inserted. 8,700 copies printed.

BR-SOV/5799
Unksov, Ye. P., ed.
PRESENT STATE OF THE PRESSWORKING OF METALS (Sovremennoye sostoyaniye kuznechno-shtampovochnogo proizvodstva) [Moscow] Mashgiz, 1961. 434p. 5,000 copies printed.

BR-SOV/5801
THE MANUFACTURE OF MINIATURE GYROMOTORS (Tekhnologiya izgotovleniya malogabaritnykh giromotorov) Leningrad, Sudpromgiz, 1961. 266p. 4,200 copies printed.

BR-SOV/5819
Bertinov, Al'bert Iosifovich
ELECTRIC MACHINES IN AVIATION AUTOMATION (Elektricheskiye mashiny aviatsionnoy avtomatiki) Moscow, Oborongiz, 426p. (Series: Aviatsionnyye elektricheskiye mashiny) Errata slip inserted. 10,000 copies printed.

BR-SOV/5821
Golego, Nikolay Lukich
MEASURES FOR COMBATING WEAR IN MACHINERY (Tekhnologicheskiye meropriyatiya po bor'be s iznosom v mashinakh) Moscow, Mashgiz, 1961. 191p. 13,000 copies printed.

BR-SOV/5822
Alekseyev, Semen Mikhaylovich, and others
MODERN FACILITIES FOR THE EMERGENCY ABANDONMENT OF AN AIRPLANE (Sovremennyye sredstva avariynogo pokidaniya samoleta) Moscow, Oborongiz, 1961. 450p. Errata slip inserted. 4,000 copies printed.

BR-SOV/5825
Rakhmatulin, Khalil Akhmedovich, and
Yuriy Andreyevich Dem'yanov
STRENGTH UNDER HEAVY IMPACT LOADS (Prochnost' pri intensivnykh kratkovremennykh nagruzkakh) Moscow, Fizmatgiz, 1961. 399p. Errata slip inserted. 6,000 copies printed.

BR-SOV/5842
Meyerovich, Irma Isaakovna
TENSION DISTRIBUTION IN COMPRESSOR BLADES DURING OSCILLATION (Raspredeleniye napryazheniy v kompressornykh lopatkakh pri kolebaniyakh) Moscow, Oborongiz, 1961. 105p. Errata slip inserted. 3,900 copies printed.

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PROCEEDINGS.
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To be published by GB.

DIRECTORATE FOR AIR FORCE EQUIPMENT, REPORT DM4-93.
German mono. Direktion fur Luftwaffen, Bericht DM 4-93, 44p. (original trans. from Dutch)

HEAT EXCHANGE IN THE FRONTA L POINT OF BLUNT BODIES IN A SUPERSONIC FLOW OF GAS: [SELECTED PARTS].
Mono. Konvektivnyi i Luchistyi Teploobmen, n. p., 1960, p. 5-55, 65-106, 145-149, 176-255, and insert at back of book.

STUDY OF THE MODULE OF ALLOY ELASTICITY; ON THE EFFECT OF INTERPHASE SURFACE ENERGIES ON POROSITY; ELECTRON MICROSCOPIC STUDY OF THE FRACTURES; STUDY OF THE EFFECT OF INDUSTRIAL FACTORS ON THE COMPACTING OF IRON POWDERS.
Voprosy Poroshkovoi Metallurgii i Prochnosti Materialov (USSR) 1959, no. 7, p. 33-56, 105-119.

Ashkerov, V. P., Zabelok, B. G. and others.
AIR DEFENSE FORCES OF THE COUNTRY.
Unidentified mono. from series: Biblioteka Ofitsera, Moscow, 1960, 217p.

Bolotin, V.
STATISTICAL METHODS IN STRUCTURAL MECHANICS.
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D'yachenko, P. V., Kameneva, A. I., and Pokrovskaya, I. A.
TRANSACTIONS OF THE A. I. VOEKOVA MAIN GEOPHYSICAL OBSERVATORY, 1959, VOL. 101.
Glavnaya Geofizicheskaya Observatoriya [Leningrad]. Trudy (USSR) 1959, v. 101[163] 75p.

Englin, B. A.
USE OF MOTOR FUELS AT LOW TEMPERATURES.
Mono. Primenenie Motornykh Topliv pri Nizkikh Temperaturakh, Moscow, 1961, 100p.

Faddeeva, Vera Konstantinovna.
METHOD OF EXPERIMENTAL RESEARCH OF HIGHER NERVOUS ACTIVITY OF MAN.
Mono. Metodika Eksperimental'nogo Issledovaniya Vysshei Nervnoi Deyatel'nosti, Moscow, 1960, 253p.

Frank-Kamenetskii, D. A.
PLASMA, THE FOURTH STATE OF MATTER.
Mono. Plazma-Chetvertoe Coztoyanie Veshchestva, Moscow, 1961, 132p.

Georgievskii, Yu. and others.
THE SEARCHLIGHT BEAM IN THE ATMOSPHERE: STUDIES INTO ATMOSPHERIC OPTICS.
Unidentified Russian mono. pub. 1960.
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NATIVE MANUFACTURED REMOTE CONTROLLED MANIPULATOR FOR THE REASSEMBLY OF ISOTOPES.
Energia es Atomtechnika (Hungary) 1960, v. 13, no. 8, p. 333-380.

Ioffe, A.
SEMICONDUCTOR THERMOELEMENTS.
Unidentified Russian mono. pub. 1960.
To be published by GB.

Ivanov, Anatolii Ivanovich and Rybkin, Georgii Iosifovich.
DESTRUCTIVE EFFECT OF A NUCLEAR EXPLOSION.
Mono. Porazhayushch Deistvie Yadernogo Vzryva, Moscow, 1960, 382p.

Kats, A. L.
SEASONAL CHANGES OF GENERAL CIRCULATION OF THE ATMOSPHERE AND LONG-RANGE FORECASTS.
Mono. Sezonnye Izmeneniya Obshchei Tsirkulyatsii Atmosfery i Dolgosrochnye Prognozy, Leningrad, 1960, 270p.

Lebedeva, M.
MICROBIOLOGY.
Unidentified Russian mono. pub. 1960.
To be published by GB.

Mel'nik, Anatolii Arsent'evich.
HELICOPTER IN THE SERVICE OF GEOLOGY AND OTHER BRANCHES OF THE NATIONAL ECONOMY.
Mono. Vertolet na Sluzhbe Geologii i Drugikh Otraslei Narodnogo Khozyaistva, Moscow, 1960, 81p.

Perov, V. P.
DESIGNING RADAR TRACKING SYSTEMS, TAKING INTO ACCOUNT RANDOM EFFECTS.
Mono. Raschet Radiolokatsionnykh Sledyashchikh Sistem s Uchetom Sluchsynykh Vozdeistvii, Leningrad, 1961, 167p.

Pogrebnoi, E. N., Braun, M. P., and Kasatkin, B. S.
COALESCENCE, SPHEROIDIZATION AND SEALING OF MICRO PORES AND MICRO CRACKS IN IRON ALLOYS; EFFECT OF ALLOYING ELEMENTS ON THE PROPERTIES OF STEEL; LOCAL PLASTIC DEFORMATION DURING BRITTLE DISINTEGRATION OF INDUSTRIAL IRON.
Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Metallurgiya i Toplivo, 1961, no. 1, p. 58-73, 108-116.

Ragozin, N. A.
JET ENGINE FUELS.
Mono. Reaktivnye Topliva, Moscow, 1959, 122p.

Samsonov, G. V. and Portnoi, K. I.
ALLOYS ON THE BASE OF HIGH-MELTING COMPOUNDS.
Mono. Splavy na Osnove Tugoplavkikh Soedinenii, Moscow, 1961, 303p.

Silbermann, Ya.
THE PRINCIPLES OF THE CHEMICAL PROCESSES INVOLVED IN THE MANUFACTURE OF ARTIFICIAL RADIOELEMENTS.
Unidentified Russian mono. pub. 1960.
To be published by GB.

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ON THE POSSIBLE AND THE IMPOSSIBLE IN OPTICS.
Mono. O Vozmozhnam i Nevozmozhnom v Optike, n. p., 1960, 185p.

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RADIATION GEOCHRONOLOGY.
Unidentified Russian mono. pub. 1960.
To be published by GB.

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PLASMA IN ASTROPHYSICS (Les Plasmas en Astrophysique).
Mono. Theory of Neutral and Ionized Gases, Paris, 1960, Sect. 3, p. 377-469.

Zharov, A.
STANDARDS OF MAXIMUM PERMISSIBLE COMMERCIAL RADIO INTERFERENCE.
Mono. Normy Predel'no Dopustimykh Industrial'nykh Radiopomekh, 5 ed., Moscow, 1961, 54p.

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THE CRITICAL MASS OF HOMOGENEOUS NUCLEAR REACTORS.
Unidentified Russian mono. pub. 1960.
To be published by GB.

PERIODICALS TRANSLATED COVER-TO-COVER

For basic list of Periodicals Translated Cover-to-Cover see Technical Translations Volume 7, Number 1.

This basic list is kept up-to-date by giving only changes in the subsequent issues of Technical Translations.

No changes are necessary for this issue.